FEEDSTUFFS

★ A WEEKLY NEWSPAPER ★

FOR THE FEED MANUFACTURER, JOBBER, BROKER and DEALER

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Outlook for Oilseed, Corn and Other Prices Analyzed; Bullish Data and Policy Plans Noted

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON—What's the outlook for oilseed, oilseed meal and other commodity prices? What are some of the U.S. Department of Agriculture policies which might be expected to influence markets in the coming months?

Some idea of possible trends may be found in USDA reports and indications of policies.

First, the USDA this week, in its fats and oils situation report, confirms previous bullish reports from here regarding the effects of oilseed and basic oilseed product exports from the U.S. this crop year.

This official report says in effect that, working from a crop year position as of Oct. 1, 1955, there was an estimated total supply of 381 million bushels of soybeans.

This, incidentally, is a statement which is under sharp critical examination in trade circles, where it is felt that the total supply has been overestimated by 10 million bushels. If so, the total crop year supply would be brought down to 371 million bushels. This comment is offered only for discussion.

To return to the USDA official report which uses the 381-million-bushel supply, USDA estimates that disappearance will result in a carryout situation at the end of the crop year of not more than 6 million bushels of soybeans.

Here is the official government

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Use of Stilbestrol In Canada Approved

OTTAWA, CANADA—Regulations have been approved providing for the sale in Canada of cattle feeds containing diethylstilbestrol.

The regulations under the Feeding Stuffs Act will put manufacture and initial sale of stilbestrol under provisions of the Food and Drug Act.

Until recently, when scientific tests confirmed its safety, the use of stilbestrol in feed has been prohibited in Canada. It has been used in cattle fattening feeds in the U.S. since late in 1954.

Officials said that only pharmaceutical firms authorized by the food and drug directorate may sell stilbestrol and then only in the form of a premix for inclusion in feeds controlled under the Feeding Stuffs Act.

The feed to be made available to beef producers will be for feeding at a rate of 1 or 2 lb. per head daily.

Announcement of approval of the use of stilbestrol happened to come shortly after the Ontario division of the Canadian Feed Manufacturers Assn. had urged authorization of the

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USDA Grows Poult Hatched from Unfertilized Egg

BELTSVILLE, MD.—U. S. Department of Agriculture researchers are currently growing a turkey poult that didn't have a daddy.

The poult, hatched March 10 from an unfertilized egg, is the first of known parthenogenetic origin to hatch and live for more than a few hours.

Dr. Marlow W. Olsen and S. J. Marsden of USDA discovered parthenogenesis in turkey eggs four years ago. The discovery has given researchers an important tool with which to investigate problems of fertility and hatchability of turkey eggs.

In continuing investigations of the phenomenon of development of turkeys from unfertilized eggs, Dr. Olsen in the last three years has put more than 13,000 infertile eggs under incubation. A large number of embryos have formed, but only a few developed to final stages before dying in the shell, and only four have pipped their shells and hatched alive. Three of the four lived only a few hours. The fourth is still alive. Scientists hope to grow the poult to maturity so that it can be used as a breeder to test, against normal breeders, the incidence of the phenomenon and whether it is hereditary.

Parthenogenesis is a natural function in many lower forms of life, but until the USDA discovery, it has never been known to occur in higher animals. Discovery came through incubation of turkey eggs to make certain that hens to be used later in a

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Alfalfa Aphid Threatens 1956 Crop

KANSAS CITY—A new insect—the spotted alfalfa aphid—is posing a serious threat to the 1956 alfalfa crop, according to reports from the alfalfa dehydrating industry. First discovered two years ago in the far Southwest, the pest has been eating his way north and east at rapid pace.

Early season reports received by Joseph Chrisman, executive vice president of the American Dehydrators Assn., Kansas City, indicate heavy infestations, exceeding last year, in the early maturing areas of Texas and Oklahoma. A similar pattern may develop in Kansas and southern Nebraska.

Faster Start

"The aphid is taking up this spring where it left off last fall," Mr. Chrisman said. "No one can foretell accurately how much damage will result, but the pest certainly is getting a faster start than a year ago.

"If spring weather is dry and if farmers do not take active control measures, a serious reduction in alfalfa production could result," Mr. Chrisman added.

A number of chemicals will kill the aphid, but only three—parathion, malathion and demeton—can be used on alfalfa destined for feed. Another method consists of burning the fields with flame throwers after each cutting. The treatment must be repeated consistently because treated fields can be quickly reinfested from nearby untreated areas. This generally makes treatment a community project which can be defeated by a few noncooperators.

The safe chemicals have a short residual action and must be reapplied frequently at a cost of $1.50@2 acre for labor and materials.

"The alfalfa dehydrating industry in the Middle West is keeping its fingers crossed this spring," Mr.

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The Case of the Disappearing Chickens

Laying Feed Market Data Revised

WASHINGTON — It looks as though the potential market for laying feeds is not as large as has been thought.

At least the nation's laying flock and egg production apparently are considerably smaller than previously indicated.

Furthermore, per capita egg consumption is now reported to have declined in recent years rather than having risen to record highs.

Data resulting from the 1954 Census of Agriculture are causing the U. S. Department of Agriculture to revise its poultry statistics, and the principal revisions are being made in numbers of layers and egg production and per capita consumption of eggs. These figures are being revised downward.

Reason for Changes

What's the reason for these changes? Well, a principal development is that the Census showed a 19% decline between 1950 and 1954 in the number of farms reporting chickens on hand. This was not fully anticipated in the month-to-month USDA poultry estimates.

Another Census finding which was not fully anticipated was the trend to larger size flocks in which rates of egg output per bird are generally higher than those reported for small flocks.

The revisions in figures on chicken numbers and egg production, of course, have significance in the feed picture.

With both layer numbers and egg production lower than previously recognized, it appears that total feed consumption by layers — including grains as well as commercial feeds—is less than previously believed.

Formula Feed

However, this does not necessarily have a direct relationship to consumption of formula feed for layers. The trend could still be toward more use of commercial egg mashes. For one thing, egg production has increased, though it has been smaller than thought and has come from fewer layers than previously thought.

Also, the trend toward larger flocks and increased specialization in egg production—a trend which shows even more importance in the light of the Census data—is of special significance for the formula feed industry. Larger and more efficient and more specialized operators, of course, would tend to make greater use of formula feed for their layers.

Another point of interest in rela-

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FEEDSTUFFS *Features This Week*

CHALLENGE TO CHANGE: The feed industry faces a real challenge to keep pace with a rapidly changing agriculture. The likely developments and industry obligations in the changing times are analyzed in remarks by Oscar Straube on **page 60.**

MILK COW RATIONS: Some interesting and helpful market information for feed men will be found on **page 11** in a report on concentrate rations, including formula feeds, fed to milk cows in 1955.

RESEARCH AND TECHNOLOGY: Some food for thought, and possible action, by the feed industry is included in comments by Dr. Charles N. Kimball at the recent Midwest feed convention. A condensation of the talk appears on **page 34.**

OTHER: The increased use of **liquid ingredients** in feeds comes in for attention in an article by Oak B. Smith on handling such ingredients on **page 18.** Trends in the important field of **feed control,** as viewed by a control official, are outlined on **page 31.** Past work and future needs for research on the use of **animal fats** in feeds are reviewed on **page 49.** Information and views on the **hemorrhagic syndrome** of poultry are presented on **page 53.**

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★ FEEDSTUFFS ★

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Poultry Promotion

MANY feed men undoubtedly welcomed the recent announcement of a new plan for coordinating poultry product promotion activities. A feature of the plan which is of special interest to the feed industry is a provision for major promotion organizations to make a joint annual solicitation of support from feed and other allied industries, instead of the previous method of multiple solicitation by these poultry groups. (Feedstuffs, Feb. 25.)

With poultry feeds accounting for some 60% of its annual tonnage, the feed industry has a heavy stake in the poultry business. The success and continued growth of the feed industry hinge in considerable measure on the success of the $4 billion poultry industry. For this reason, effective promotion of poultry products merits feed industry support.

However, in the past—and in recent years in particular—the feed industry has been in an increasingly uncomfortable situation in regard to requests for funds for poultry product promotion. Different poultry groups have each sought allied industry support of their own activities or products. The result has been an overlapping of solicitation, if not of activities. Also, some of the solicitations became so aggressive that they aroused resentment and threatened to hurt all fund raising drives.

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RECOGNIZING these problems and the need to improve relations with allied industry businesses, poultry industry leaders included a joint solicitation plan as part of the so-called "Harrisburg Agreement" for coordinating publicity and advertising needs and methods of the poultry industry.

A special poultry industry committee developed a Community Chest-type "Feather Fund" through which three major groups—the Poultry and Egg National Board, the National Broiler Council and the National Turkey Federation—will make one united appeal for funds from allied industries. This plan is designed to enable the allied industries to make one annual investment for national poultry product promotions.

At the same time, it is recognized that some feed companies may not be interested in supporting promotion of all poultry products, and it is understood that, if they so wish, they may designate how their funds are to be used—for chickens and eggs and not for turkeys, for example.

An indication of feed industry interest in support of the Feather Fund plan came recently in endorsement of the plan by the board of directors of the American Feed Manufacturers Assn. The board voted to recommend to AFMA members that support be given to the joint fund raising campaign. AFMA officials noted that if feed manufacturers followed the recommendation of the fund and donated 1¢ a ton on all poultry feed, a maximum of $200,000 could be realized.

It is apparent that the feed industry generally looks with favor on the plan for joint solicitation of support for national poultry product promotions. Of course, it may be noted, a new method of raising funds from allied businesses is not an automatic guarantee that those funds will get the best possible use. What, then, will be done under the new promotion plans? The poultry industry leaders who developed and approved the "Harrisburg Agreement" saw a need for industry-wide cooperative efforts in promotion work, and the plan calls for coordination of the planning, scheduling, support and carrying out of the promotions of the various poultry products. The PENB is being assigned responsibility for giving leadership and service and for achieving unity on promotion programs. At the same time, the committee declared that competition within the industry has helped bring present progress and is desirable. While there is to be coordination of effort, the national and area industry commodity groups are, under the agreement, to be encouraged to continue to expand their promotion efforts on their particular commodities.

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IT is in regard to continuation of activities by separate groups that some feed manufacturers still raise questions. There probably are some good answers for any questions raised, and there can be little doubt that a great deal of progress has been made in developing coordinated promotion plans and joint solicitation of allied industry support for the major promotions. In fact, one poultry industry leader commented, "Never in the history of the poultry industry has so much progress been made in such a short time."

However, it should be recognized that some feed men may still question methods of carrying out the work. For example, one feed manufacturer called the promotion plan and the consolidated fund a "step in the right direction." But, he feels, there is still some distance to go in obtaining the most efficient use of the funds. He believes that the promotion of sales of all poultry products might be handled more economically and more efficiently if the job were done by one over-all organization, with one well-balanced, efficient staff, rather than by a number of organizations, with multiple staffs, which might duplicate each other's functions and activities to at least some extent.

Meanwhile, it must also be recognized that poultry feed, while representing the largest share of the formula feed industry's business, is just one phase of the entire industry's interests. The industry is, of course, also interested in the production and sale of other meats and foods which are competitive with poultry products. Thus, the industry would probably feel obliged to support worthwhile beef, pork and other promotions, too, if asked to do so.

At any rate, it is a situation of which feed men should be aware. At the same time, the industry's broad interests in all animal agriculture must be realistically recognized and understood by its customers as well as by feed men themselves.

A FEEDSTUFFS FORMULA FEEDS: HOW'S BUSINESS? FEATURE

Reports of formula feed demand were more encouraging this week, with some areas noting a rather decided upturn in business and others indicating at least more hopeful signs of a definite spring upswing. Stronger ingredient markets developed durlag the week, and this may have encouraged a greater volume of buying. Also, seasonal factors came more to the fore, with emphasis on starter feeds. An improved hog market made more interested customers out of feeders. The millfeed market showed more strength this week than it has for some time, and oilseed meals and animal by-products also moved up. The index of wholesale feedstuffs prices advanced 4.5 points to 185.3 and the feed grain index moved up 3 points to 195.7 in the week ending March 28. (Ingredient details on pages 74-76.)

Northwest

Formula feed business showed improvement for some manufacturers in the Northwest, although in some cases no particular change in the level of sales was noted.

Sales were limited to some extent this week by a rain and snowstorm which checked movement of trucks to mills and also slowed down retail trade. However, it is expected that buying will be stepped up next week because of this interruption. Shipping orders for carlot business picked up for some manufacturers.

Starter feeds continue to hold the spotlight, although some firms said that the early push on chick starters had not developed into the big volume that had been expected. Prolonged winter weather, it is felt, delayed starting of chicks to some extent.

Turkey feed volume continues to gain, and baby pig feeds for the most part are showing improved sales. Some manufacturers noted a good pickup in hog feeds this week following strength in hog markets. However, for others, sales of this type of feed continued to drag.

Operations were held to recent levels in most instances, with one mill down for a day this week but planning a full two-shift schedule next week. Others maintained full operations on two shifts this week.

Southwest

Good improvement in formula feed sales was reported by mills in the Southwest this week. The trend was more in line with seasonal tendencies, and manufacturers were encouraged over business prospects for the first time this spring. Some of the factors behind the upturn include a high for the year on the hog market, stronger commodity markets which have affected feed costs and better weather conditions.

Warmer temperatures have hastened the northward movement of the chick season, and mills indicate a moderate improvement in starting poultry feed demand. Broiler feed demand is good, and there is a fairly good demand for turkey feed. Better conditions on the hog market bringing the peak beyond the $15 point at Kansas City led to increased sales of hog feed. Some manufacturers indicated a little better interest in dairy feed demand.

While weather generally was more spring-like, the danger of drouth still hung over much of the Southwest. March was an extremely dry month in this area, and all but one or two months this crop year have had subnormal rainfall in some sections.

Prices advanced as much as $1 ton on formula lists. The increases were due to higher vegetable protein costs and upturns in millfeed and feed grains. Operations advanced to five and six days for mills in this area.

Central States

Mixed opinion on the status of formula feed business was registered in the central states during the week ending March 28. Some manufacturers said an improvement was in evidence, although others said their sales situation was slightly lower. The consensus is, however, that things are not too bad, and the outlook is fairly cheerful for the next few months.

Mills have a one or two day order backlog and are running full time. Hog feeds are slow, but an improved market during the period held promise for a pick-up in feed sales. Poultry feed business provided the major interest, and hatchery reports and egg settings indicate later feed demand will jump. Cattle and dairy feeds were slow.

The outlook, however, is good. Feed prices are higher, and it is expected that further advances ranging to $1 ton will be quoted this week. Higher soybean oil meal, millfeeds and corn provide the stimulus.

Southeast

Feed business in the southeast this week has improved to some extent, but from most reports it apparently has not kept pace with other sections of the country.

Hog feeds are moving a little better after a very prolonged slump, with broiler feeds still holding a very substantial lead. Chick place-

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Cargill Opens Chicago Molasses Terminal

CHICAGO — A new molasses terminal has been erected in Chicago by Cargill, Inc.

The structure, adjacent to the Cargill elevator, has a capacity of 800,000 gal. of molasses and serves as a depot for cane feeding molasses being sold to feed producers and feeders in the Chicago market area.

As a part of the terminal operation, trucks with dual capacities for hauling both grain and molasses will transport the molasses to users in and around Chicago, and haul grain back to the elevator, Cargill officials said.

COOPERATIVE BOUGHT

MT. PLEASANT, IOWA — The Henry County Supply Cooperative has purchased the Fairfield Cooperative Supply. In addition to petroleum products, the Fairfield branch will handle a complete line of feeds and fertilizers.

TWIN CITY SPEAKERS—A nutritional review of folic acid and vitamin K was presented at a recent meeting of the Twin City Nutrition Seminar at the University of Minnesota in St. Paul. Dr. Douglas V. Frost (left), Abbott Laboratories, discussed vitamin K, and Dr. Thomas H. Jukes (right), American Cyanamid Co., spoke on folic acid. Dr. I. E. Liener (center), University of Minnesota, presided at the meeting.

Program Complete For April 4-5 Texas Convention

FT. WORTH, TEXAS—A program that will delve into such feed industry problems as bulk deliveries and medicated feeds has been lined up for the 22nd annual convention of the Texas Feed Manufacturers Assn. The convention is scheduled for April 4-5 at the Texas Hotel here.

The industry educational sessions will open at 9:45 a.m. April 5 with Monroe U. May, Southland Feed Mills, Dallas, president of the association, reviewing the year's accomplishments. Speakers and their topics during the day are as follows:

H. Robert Diercks, vice president, grain division, Cargill, Inc., Minneapolis, "Hedging Operations as Applied to the Feed Business"; Robert F. McLeod, president, Chas. M. Cox Co., Boston, "Company Owned Stores and Bulk Deliveries—as Practiced on the East Coast"; Wayne Nusbaum, manager, Ralston Purina Co., Ft. Worth, chairman of the association's feed bill committee, "The Texas Feed Law"; W. E. Glennon, president, American Feed Manufacturers Assn., Chicago, "The Future of Medicated Feeds in Our Industry," and Lloyd S. Larson, executive vice president, Midwest Feed Manufacturers Assn., Kansas City, "A New Career."

Dean McNeal, vice president of Pillsbury Mills, Inc., Minneapolis, will address the noon luncheon group that day on the topic, "Commodity Price and Feed Ratio Outlook."

Special events during the convention include a golf tournament at the Ridglea Country Club and a "Friendship Hour" in the hotel's Gold Room on April 4 and a big banquet the night of April 5.

The Texas Grain & Feed Dealers Assn. has scheduled its meeting for April 6-7 at the same hotel.

Pillsbury Purchases Farm Near Clinton For Research Center

CLINTON, IOWA—The feed division of Pillsbury Mills, Inc., has announced a major step to expand its feed research program by purchasing a farm near Clinton to be converted into a research center.

The division general manager, G. R. Peterson, in announcing the move, said, "It is the result of a decision to add additional facilities near feed headquarters in a program to further intensify research activities.

"Research has always been a large part of the division's effort." He referred to recent development of a new chick starter as an example of the laboratories' work.

"The farm, which will enable us to continue our search for new improved nutrition for livestock and poultry, is located about five miles from Clinton," Mr. Peterson pointed out. "In the near future buildings will be added which will convert the farm into a first rate agricultural laboratory, including a poultry house, a 10,000-bird broiler growing house, a laying house, a second broiler house and a building for swine.

"Research activities will be developed by a committee of feed division specialists including E. A. Blasing, director of nutrition; Dr. Spencer Morrison, technical sales director, and others. D. W. Hunter, feed administrator, will administer the projects. Eventually a company manager will take over complete operation of the farm."

2 NEW FEED SUPPLEMENTS ...from the SEA

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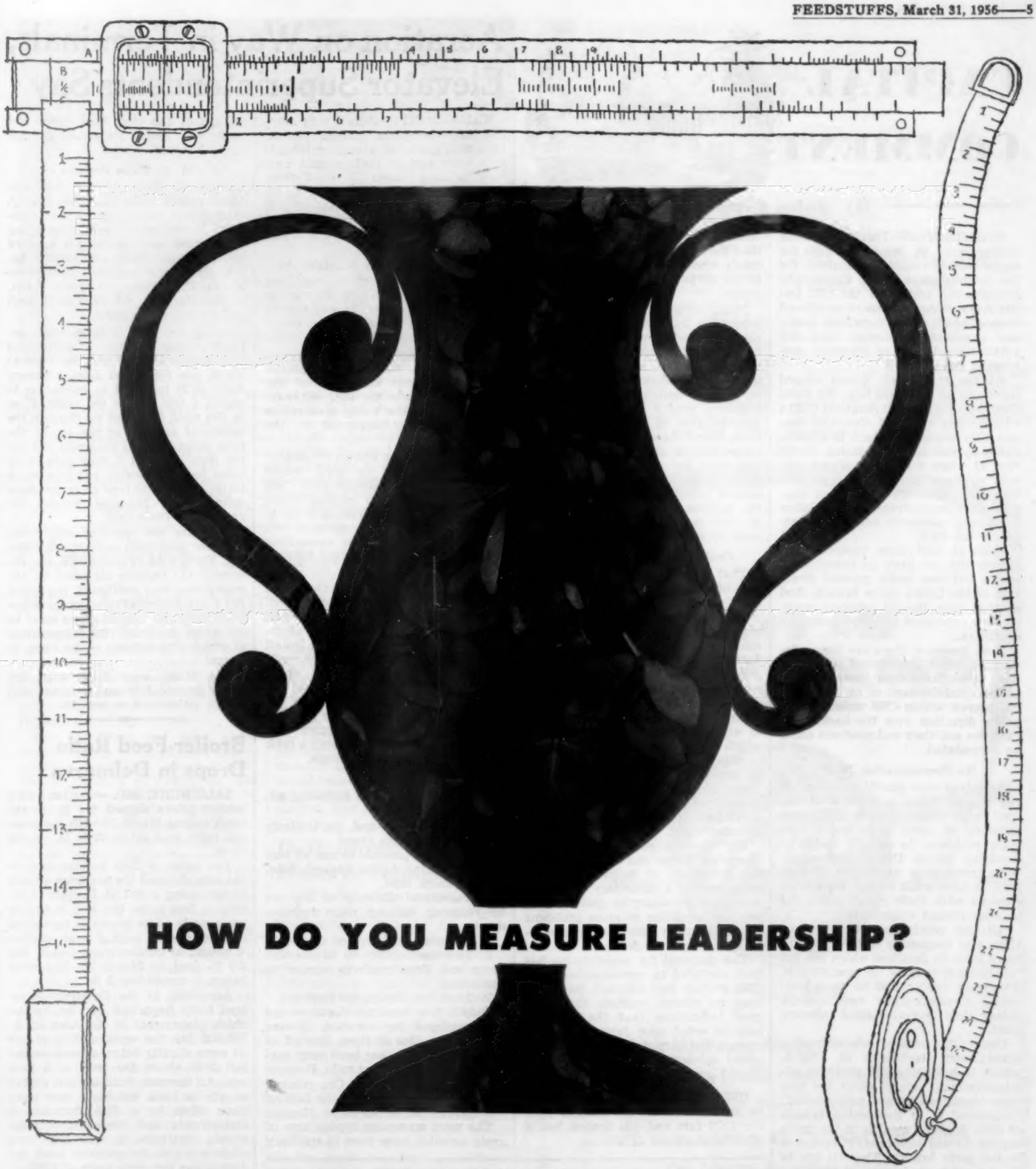

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CAPITAL COMMENT

By John Cipperly

WASHINGTON—There is a strong undercurrent of demand within the major oilseed crushing industries for the establishment within Commodity Stabilization Service of the U.S. Department of Agriculture of an oilseed branch which would formulate policy and administer decisions over the major oilseed crops of soybeans, cottonseed and flaxseed.

As the trade well knows oilseed meal and oil problems have for some time been scattered throughout USDA without any apparent rhyme or reason. The nearest approach to consolidated operations came during World War II when during the oilseed protein shortage controls over production policy and distribution of supplies were concentrated under Walter C. Berger, currently associate director of the CSS.

Even at that time, however, Mr. Berger did not have an independent status but was under general direction of the USDA grain branch. And at that time the oil products were, as now, scattered in other branches of USDA.

Now, however, there are strong indications that the oilseed industries have crystallized their ideas in favor of the establishment of an independent branch within CSS where unified policy direction over the basic commodities and their end products could be formulated.

No Concentration Now

As things now stand, producers of the oilseed crops, processors of oilseed crops and consumers of the end products of those crops must take their problems to several scattered branches within USDA and repeat recommendations to several officials who in turn must review their conclusions with their counterparts for another oilseed commodity.

All this results in heavy loss of time and frequently within government leads to decisions which are not rounded out to meet an over-all condition but are pointed to meet individual commodity requirements rather than over-all oilseed industry good.

Under the present administrative management technique at USDA, which is a heritage of previous administrations, here is about the way these commodities are now divided: Cottonseed is in the cotton branch of CSS. Soybean meal is in the grain branch as are soybeans. Flaxseed is in the grain branch. The oils are in the fats and oils branch of CSS.

With the present growing administrative problems of the grain branch it may be appropriate at this time that a strong drive be directed to divorce those oilseed crops from grain branch management and give to them an independent branch status where existing competent experts on those oilseed crops could function with maximum efficiency.

Several Reasons for Independence

Apart from the somewhat ridiculousness of the present division of authority from the viewpoint of good management technique, there are other equally cogent reasons for independent status for the oilseed crops.

Let us first examine the production side of the recommendation for a consolidated oilseed-oil-meal branch at CSS. Soybeans have become a cash crop of major importance to farmers in many states and experts believe that it is a growth industry in the farming community.

A somewhat similar situation exists for cottonseed and flaxseed. Yet these major crops are little more than the step-children of grain branch chiefs whose first attention must be to the major crops of food and feed grains.

Next, temporarily by-passing the processing industries, let us turn to the feed industry which has now reached front rank stature and now for the first time is being recognized as the cornerstone of the food supply of the nation. The feed manufacturers need a common arena for consideration of their supply problems, where the oil side of the oilseed industries can sit in common discussion with the meal side of the industry to maintain balance within the oilseed industry as a whole so that the position of the oil end products do not create an imbalance with meal or vice versa.

Could Consider All Oilseeds

That type of roundtable examination of problems would not be confined to any single oilseed crop but would include all the major oilseeds whose end products are largely consumed by the feed manufacturing industry.

Returning to the processors of the oilseeds crops, their stake in a consolidated management of oilseed industry problems is equally as great as either of the other two groups which have been mentioned. In fact, in many instances the oilseed crushers are also processors of both or all three of the big oilseed crops or themselves engaged in integrated operations whereby they are feed manufacturers.

For them a consolidated branch where problems can be handled as the first item of business and not relegated to a secondary status as now made necessary by grain branch primary attention to grain problems would short-cut slow-moving government bureaucratic detours.

This proposal for consolidation has been explored in conversations with CSS officials and although there has been no climax reached, there are good indications that the proposal may be acted upon favorably if the current industry drive is given some added acceleration at this time.

Personnel Is Available

USDA personnel problems need not be an obstacle. At the present time the CSS fats and oils branch has a

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Aeration on Way in Terminals, Elevator Superintendents Say

KANSAS CITY—Aeration is moving into the grain storage picture very fast, grain elevator superintendents were told at their annual convention here March 22. Predictions were made that within a few years 90% of terminal grain elevators will be equipped for aeration of binned grain, compared with half a dozen now so equipped.

The symposium on aeration drew much attention during the program of Grain Elevator and Processing Superintendents Assn. It was clearly a subject in which all of the elevator operators were deeply interested.

Claude Goodnight of the Harvest Queen Mill & Elevator Co., Mexia, Texas, who was chairman of the symposium, made the 90% estimate and said that the value of aeration was particularly apparent in the South and East.

"What hurts the elevator operator today is dockage, on corn, wheat and milo," Mr. Goodnight said. "We must find ways from turning stored grain so much and breaking it up in the process. Aeration systems will accomplish this. At the same time they cut expenses and make fumigation easier."

Robert Jordan of the Galveston Wharves Terminal Elevator showed the convention plans he has developed for an aeration system in his elevator. Plans are being made to install perforated pipes along the tank walls running from top and bottom. There will be three air intake pipes and one exhaust pipe with fans to move the air horizontally through the grain in the tank. Mr. Jordan's program calls for moving enough air through a tank to cool grain in 12 to 18 hours.

Advantages

Mr. Jordan cited the following advantages to aeration:

1. Saves labor and particularly overtime in turning grain.
2. Makes it possible to use all legs of the elevator during harvest time.
3. Reduces dust.
4. Increases efficiency of bin use by reducing turning room requirements.
5. Aeration will replace driers.
6. Increases ability to handle wet grain and thus improves service to customers.
7. Improves fumigation facilities.

Only a few terminal elevators are now equipped for aeration, it was brought out. One of them, located at Phoenix, Arizona, has been very successful in handling wet milo, Herman Kroloff, of Allied Grain Co., related. Another is the Walnut Creek Milling Co. elevator at Great Bend, Kansas.

The most numerous applications of grain aeration have been in auxiliary storage of the steel tank type, and there was much discussion of this kind of operation also.

W. C. Theis Reports

Willis C. Theis of the Simonds-Shields-Theis Grain Co., Kansas City, related the experience of his company in the past year in aerating three grain tanks holding a total of 1,000,000 bu., which are located beside the firm's terminal elevator in Kansas City. These tanks are 114 ft. in diameter with sidewalls 30 ft. high and a 54-ft. cone height.

Across the floor of these tanks extends a main air duct of perforated oval tubing 28 in. by 24 in. wide to which are connected four tributary ducts of 21 in. by 24 in. extending to within a few feet of the walls. Fans on the main duct pull air through the ventilator opening at the top of the tank down through the grain and out the floor ducts at a slow rate of ¼ cubic foot per bushel per minute. A faster rate would tend to cause channeling of air passages through the grain, Mr. Theis said.

The fans are operated only when weather conditions outside are right, Mr. Theis said. Three rules are observed: (1) Outside air must be 10° cooler than any portion of the grain, (2) relative humidity must be below 50 to 60%, (3) temperatures must be 20° above dewpoint (the temperature at which atmospheric vapor turns to water).

The tanks were filled with dry wheat in mid-July and aeration was

(Continued on page 78)

Broiler-Feed Ratio Drops in Delmarva

SALISBURY, MD.—Delmarva broiler prices slipped ½¢ lb. in the week ending March 24 with the average price paid set at 22.4¢ lb. on the farm.

The price of 20% broiler feed in the area dropped 50¢ ton from a week earlier going to $91.58. In spite of the drop in feed price, the drop in broiler meat made a less favorable meat-feed ratio compared with a week earlier. A pound of broiler meat would buy 4.9 lb. feed on March 24. The week before it would buy 5 lb.

According to the Delaware-Maryland Crop Reporting Service, broiler chick placements in the area at 3,597,000 for the week ending March 24 were slightly below a week earlier but 20% above the level of a year ago. An increase from a week earlier of 4% in local hatchings was more than offset by a 15% decrease in inshipments and increased outshipments. Settings at 4,337,000 were slightly below the previous week but 19% above the same week of 1955.

Chick placements in Delaware totaled 1,870,000 or 2% below the previous week; egg settings were up 4%. In Maryland chick placements totaled 1,626,000—4% above the previous week; egg settings were down 4%.

Delmarva growers marketed 2,577,000 broilers last week. This was 7% less than the previous week but 16% more than the same week last year. Marketings were 87% of the average weekly placements 9 to 12 weeks earlier.

Prices paid f.o.b. Boston for hatching eggs were 48@49¢ on both March 22 and March 27.

Nationwide, for 22 reporting states, chick placements totaled 25,681,000 for the week ending March 24. This was 3% more than during the previous week and was 24% more than during the same week a year ago.

Egg settings in 22 states totaled 36,333,000, [illegible] below the previous week but was 20% more than during the same week a year ago.

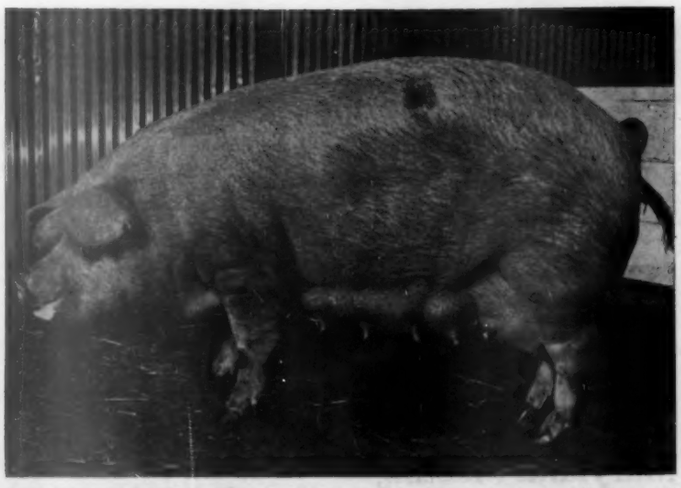
Chicks Placed in Principal Broiler Areas

(000's omitted)

Week ending:	Maine	Conn.	Penna.	Ind.	Ill.	Mo.	Del.	Md.
Jan. 21	740	586	585	645	141	516	1,498	1,181
Jan. 28	713	504	668	754	136	608	1,604	1,225
Feb. 4	759	492	721	718	177	617	1,543	1,379
Feb. 11	779	584	781	798	217	669	1,451	1,407
Feb. 18	799	681	766	771	232	705	1,613	1,384
Feb. 25	744	603	769	794	179	638	1,745	1,547
March 3	758	530	798	835	181	594	1,717	1,546
March 10	834	559	898	833	188	677	1,811	1,446
March 17	793	557	854	859	239	710	1,911	1,568
March 24	809	590	838	770	183	706	1,870	1,626

Week ending:	Va.	W. Va.	No. Car.	So. Car.	Ga.	Fla.	Ala.	Miss.
Jan. 21	1,118	483	1,387	209	4,093	239	1,433	886
Jan. 28	1,194	496	1,490	254	4,201	284	1,548	925
Feb. 4	1,266	504	1,551	271	4,565	262	1,480	1,065
Feb. 11	1,314	505	1,690	311	4,415	362	1,561	1,024
Feb. 18	1,345	498	1,618	281	4,415	317	1,668	993
Feb. 25	1,385	494	1,639	345	4,256	269	1,626	1,066
March 3	1,415	508	1,423	264	4,385	271	1,662	1,068
March 10	1,458	597	1,553	333	4,441	281	1,670	1,175
March 17	1,468	660	1,638	347	4,466	277	1,674	1,104
March 24	1,465	644	1,630	351	4,700	311	1,827	1,158

Week ending:	Ark.	La.	Texas	Wash.	Oregon	Calif.	Total 22 areas 1956	Total 22 areas 1955
Jan. 21	1,531	347	1,674	210	150	1,125	20,677	14,959
Jan. 28	1,707	383	1,817	227	184	1,208	22,030	17,019
Feb. 4	1,956	354	1,902	223	121	1,103	23,784	15,794
Feb. 11	1,815	350	1,860	234	160	1,182	23,627	19,983
Feb. 18	1,896	311	1,908	274	151	1,271	23,723	20,373
Feb. 25	1,857	364	1,930	216	166	1,313	23,644	19,890
March 3	1,817	369	1,881	255	174	1,165	24,217	19,330
March 10	1,907	394	1,981	312	138	1,209	24,810	18,500
March 17	2,186	337	1,944	348	190	1,252	25,681	20,216
March 24								



NEW SWINE BREED—This 17-month-old sow, with 14 teats, is called a good representative of the new Palouse breed of hogs developed primarily for its high proportion of lean meat by Washington State College. This sow farrowed and raised 11 pigs in her first litter and 12 in the second and current litter. Average weaning weights were 35.5 and 43.9 lb., respectively, at 56 days. The new breed is result of inbred crosses between the Danish Landrace and Chester White breeds. Purpose of the new breed, according to the college, is to provide an acceptable breed of meat-type hogs for the Pacific Northwest, although it is adapted to other areas, too. The Palouse is a white hog because white hogs are traditionally popular in the Pacific Northwest.

Objections Heard to Terms of New Grain Storage Agreement

WASHINGTON—Some disappointment was expressed in grain trade circles over the outlook for the new Uniform Grain Storage Agreement terms which have been tendered to the warehousing industry by the U.S. Department of Agriculture.

The agreement has been under critical fire by congressional appropriations committee members and USDA's decision to modify its rate provisions downwards is seen as the result of the congressional attitude.

However, it is understood that a warehousing industry committee was to meet in Washington this week with top officials of the Commodity Credit Corp. to ask for a reconsideration of their intentions. Trade committee membership was expected to include not only proprietary houses but also representatives from the National Federation of Grain Cooperatives.

Trade sources are reporting that objections to the CCC proposals include protests over the loss of the anniversary service charge and other reductions in the earning power of country houses for any month over a two-year period.

It is also considered possible that there may be a threat of breach in the trade front for a uniform agreement if some large operators decide to reject it and offer their facilities on public storage rates. Such a major decision would obviously throw the warehouse industry into an unusual situation.

This condition could come about if the Commodity Stabilization Service's front office goes through with its plans to halt sales of export grain on an interior basis. USDA officials believe that they have an impossible situation to administer when they offer export grains under Public Law 480 provisions at interior points.

Trade components who are insisting that this is the only method which reflects the free enterprise system say USDA is taking an arbitrary and self-defeating position on its alleged decision on interior sales, since it would have the effect of deterring all out sales efforts of grain exporters in meeting foreign buying requirements.

EMERGENCY FEED

WASHINGTON—The U.S. Department of Agriculture reports that under the government's 1955 emergency feed program for drouth and other disaster areas, 166,786 farmer purchase orders have been issued for 9,876,050 cwt. of approved grains or mixed feeds as of March 15.

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D. D. Moyer Resigns Hales & Hunter Post

CHICAGO—Erle M. Ellis, general manager of the Red Comb-Pioneer Feed division, Hales & Hunter Co., Chicago, announced this week that Daris D. Moyer, assistant to the manager of the firm's poultry department, is returning to the field of education. Mr. Moyer for the last year has been active in the company's turkey department.

Mr. Moyer, who will leave the firm early in April, has accepted a position as extension poultryman with Michigan State University, East Lansing. His new duties will involve the turkey production and marketing program as well as general poultry extension work. He also has enrolled in the graduate school at MSU and will complete requirements for his master of science degree as soon as possible. It also is expected he will continue and obtain a Ph.D. degree.

Mr. Moyer is a native of Ohio, and was graduated from Ohio State with a degree in general agriculture. Before joining Hales & Hunter, he was general manager of the Ohio Turkey Growers Marketing Assn., Inc., and had 17 years of poultry extension work in Missouri and Ohio before that.

Hales & Hunter has not yet found a replacement for Mr. Moyer.

Des Moines Feed Club Announces Field Day

DES MOINES, IOWA—The Des Moines Feed & Grain Club has announced that its annual field day will be held May 21 at the Des Moines Golf & Country Club.

Tom G. Dyer, Sargent & Co., Des Moines, is chairman of the event.

Tall Fescue Seed Offered as Feed

CHICAGO—The Chicago office of the Commodity Stabilization Service has announced an offering of 1,165,862 lb. of tall fescue seed for sale as feed.

The first sale was made last week—for 64,930 lb. at $16 ton.

The seed is in store at 12 warehouses in Kentucky and one in Illinois.

Sales are to be made on the basis of "as is, where is" with all tags removed, and the buyer must certify that the seed will be used for feed purposes only.

A recent U.S. Department of Agriculture analysis of sample for feed purposes shows 13.32% protein, 5.96% ash, 1.66% ether extract, and 5.51% moisture.

A private analysis by the Runyon Testing Laboratories in Chicago of similar samples from these lots of seed showed 13.65% protein, 2.2% fat and 9.85% fiber. The laboratory of a Chicago feed mill shows 13.2% protein, 1.38% fat, 11.1% fiber, 3.98% ash and 10.08% moisture. The same mill indicates molasses absorption by the ground product at 30 to 35%. Samples are available upon request.

Value of the fescue seed is placed by animal nutritionists as close to barley.

Offers by letter or wire will be received by the Chicago CSS Commodity Office, 623 South Wabash Ave., Chicago, up to 1 p.m. CST, each Wednesday. Successful bidders will be notified by wire by 5 p.m. the following Friday.

Mill Modernization Trend Indicated

The continuing trend toward more feed mill modernization and construction is evident in recent reports from equipment companies.

Reports on Prater Pulverizer Co. and the Wenger Mixer Mfg. Co. activities tell of recent new equipment installations in some 25 feed mills in 13 different states.

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STANDARD BRAND PULVERIZED WHITE OATS
DAIRY BRAND COARSE GROUND OATS
CRESCENT BRAND PULVERIZED OATS
CORN OATS PELLETS (Corn-Oats)
ACME GROUND DOMESTIC FLAX SCREENINGS
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USDA Reports 5% Increase In Use of Molasses for Feed

WASHINGTON — Approximately 428 million gallons or about 70% of the total molasses supply available in the U.S. last year, was used by the formula feed industry and for direct on-farm feeding to livestock, according to figures released by the U.S. Department of Agriculture's Agricultural Marketing Service.

This is 5% greater than the previous record of 406.1 million gallons used for livestock feed in 1954 and compares with the 1950-54 average of about 308.5 million gallons.

The AMS report also points out that on the basis of its feeding value, 6.5 gallons of molasses is equal to a bushel of corn. When this quantity of molasses can be bought for less than a bushel of corn, it pays to feed molasses, according to the AMS experts. Also, they say, since molasses makes roughage more palatable, it has a greater value to livestock feeders than its use simply as a source of carbohydrate. Small amounts of molasses added to feed induce cattle to eat roughage they would ordinarily refuse which, in turn, reduces waste and makes more feed available.

Prices Increased

The report shows that prices of blackstrap molasses, in tanks, at New York rose steadily in 1955 from a low of 11.5¢ gal. in January to a high of 13.62¢ in December, and averaged 12.48¢ gal. for the year. This was 5% more than in 1954.

The report also points out that the improvement in distribution facilities, increasing interest in feeding molasses from new and old customers and not much change in the supply picture should cause prices to average higher in 1956.

Deliveries of sugar for livestock by primary distributors in 1955 totaled 19,000 tons, raw value, more than double that of 1954. About half of this was in the form of refined sugar.

In this connection, the report discloses that Congress now has under consideration legislation which would make refundable the import compensating tax on raw sugar used for livestock feed. If this is passed into law, it will mean a significant reduction in the price of raw sugar used for livestock feed, the report states.

Processor, Feed Firm, Service Firm Involved In New Broiler Plan

POCOMOKE CITY, MD.—T. H. Ramsey, division manager here for Birds Eye Corp., recently announced a new broiler production arrangement which also involves a feed manufacturer and a feed service firm.

Involved, he said, are Birds Eye, the processor; General Mills, Inc., at Seaford, Del.; and Norman Nock, Pocomoke City, who will operate Nock's Feed Service.

Mr. Ramsey said the new plan is being initiated to enable his company to obtain for marketing a smaller chicken than normally available on the open market.

"We specifically want small fryers for our cut-up frozen package," he said. "To meet this specialized need, which is but a small part of our overall requirements, it was felt that some provisions must be made which would afford protection and adequate compensation to the grower. Accordingly, we have worked out a plan for a limited number of growers to produce chickens to our specifications under a year-round contract which protects the grower from sudden losses due to a sharp decrease in poultry prices and which assures us of obtaining top quality poultry at a normal cost throughout the year."

Mr. Ramsey said the plan will work like this: Growers will be selected and a contract to procure the entire output of each poultry house on a year-round basis will be made. All contracts and supervision of the purchases and placement program will be handled by Nock's Feed Service. Mr. Nock will also supply each grower with all feeds and other necessities. General Mills will furnish the feeds from its Seaford operation. Mr. Nock will administer the feeding and growing program. At the time the chickens are put into the houses by the grower, he is guaranteed a minimum price per thousand birds which will be approximately the labor and house rent cost. At the time the chickens are sold, he will receive additional money on an incentive plan according to efficiency.

This plan has nothing to do with the present market price of broilers, Mr. Ramsey said.

Under the plan, Mr. Nock will act as an independent agent, supervising and administering the entire program. Mr. Nock formerly was a partner of Small, Bull & Nock, local feed dealers. Prior to that he was employed by Birds Eye as a poultry buyer, field service representative and foreman in charge of the night operation.

Maryland Meeting Draws Big Crowd

WASHINGTON—A record crowd of almost 500 persons turned out for the University of Maryland's 1956 Nutrition Conference for Feed Manufacturers, held March 22-23 at the Shoreham Hotel in Washington.

A topic of wide current interest, energy and calorie-protein ratios, was among the subjects covered by Maryland and guest experts. Various other aspects of poultry and animal nutrition also were reviewed at the two-day conference.

In addition to the papers which were presented, the program included question panels and an informal feed formulation workshop.

Reviews of papers presented at the conference will appear in next week's Feedstuffs.

Cincinnati Feed Club To Meet April 2

CINCINNATI — An Izaak Walton League color film depicting a canoe trip through the wilderness of the Quetico-Superior Forest in northern Minnesota and Canada will be viewed by members of the Cincinnati Feed Club at a monthly dinner meeting April 2 at the Cincinnati Club. The dinner at 6:30 p.m. will be preceded by a cocktail hour.

Arkansas Sales Tax Refund Procedure For Feed Explained

LITTLE ROCK, ARK.—The method by which feed sales tax refunds will be made to Arkansas feeders was explained recently.

A state supreme court decision in January had the effect of upholding a law exempting poultry and livestock feeds from the state's 2% sales tax. The action allows refunds to be made to feeders who have paid the tax. Many poultrymen paid the tax under protest while the exemption law was involved in legal action.

The steps to be taken by feeders and feed dealers to obtain the refunds were outlined by Charles D. Hawks, general manager of the Arkansas Poultry Federation.

Feeders must obtain refund permits from their county court houses or from the state revenue commissioner in Little Rock. The permit is to be filled out and mailed to the commissioner, who will assign the sender a number and mail the permit back to him.

The feeder then is to send the permit and number to the feed dealer. The dealer will credit the farmer or grower with the amount of the tax refunded on feed bought, and the dealer will enter a claim with the state, giving the grower's name, address and permit number. Dealers have to obtain a signature from the grower showing that the refund due has been credited.

On monthly sales tax reports and on forms from the revenue department, feed dealers will have to show the items, by delivery date from signed tickets, from the feeder, on feed items only. This does not include medication (except where medications are part of the feed), litter, etc. Oyster shell and grit are feed and exempt from sales tax.

Mr. Hawks said that if feed is delivered once a week, the monthly sales accumulation can be included on each monthly statement with the feeder's signature on the record which accompanies the sales tax return.

Feed dealers were reminded that the state revenue department will require a feeder's signature on each of the forms that accompanies the sales tax return.

EVENING HOSPITALITY WITH THE DFRC—The opportunity to meet friends and business associates in the hospitality rooms of the various distilling firms has become one of the highlights of the annual conference of the Distillers Feed Research Council in Cincinnati. Here the cameraman shows a few shots taken before and after the main rush of visitors crowded the rooms to capacity at the recent conference.

The picture on the left in the row of photos above was taken in the suite of Schenley Distillers, Inc. E. P. Henderson (center), Schenley farm feed division, chats with Mr. and Mrs. U. R. Fishel, Fishel Products Co., Hope, Ind., at his right, and Sam Golden, Amburgo Co., Inc., Philadelphia, and E. B. Fishel, Fishel Products Co., Kingsbury, Cal., at his left.

The second photo was taken in the Joseph E. Seagram & Sons, Inc., suite. Frank Ryan (left), manager of grain purchasing for Seagram's, and R. S. Mather (right), his assistant, visited with Dr. J. R. Couch, Texas A&M College, one of the conference speakers.

In the third picture, Dr. L. E. Carpenter (left), director, DFRC, and Mrs. Carpenter, are exchanging pleasantries with Mr. and Mrs. John F. Young, John F. Young Co., Cincinnati.

In the picture on the left, shown in the suite of National Distillers Products Corp., New York, hosted by George M. Brinker and Henry E. Pruyn, are: Standing, left to right, Bill Ward, Altman's Mills, Troy, Ohio and Irwin, Pa.; Robert H. Wyman, Nopco Chemical Co., Toledo; Dr. Robert L. Kemper, Early & Daniel Co., Cincinnati; seated, Mrs. Ward; Mrs. Don E. Rogers, Chicago; Mrs. Wyman, and Mrs. Kemper.

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Some salesmen I have known would drive a sales expert crazy. They did everything wrong according to the books but they still got the orders

I'm thinking particularly about my friend, Ray.

How that boy could sell feed. He was only about 5 ft. tall and he weighed about 240 lb. when I traveled with him out in the cattle country. A few years before he had been operated on for a busted appendix and because he was so fat they had just laid him wide open, and the scar was terrific.

This was in about 1928 and we got into a community of Belgians, and we were calling on the king-pin of the group and I didn't think we were gettin' anywhere at all. I was already to leave when Ray started to talk about Belgium. I knew he'd never been out of his own state but that didn't stop Ray. He said he was with the French Army at Chateau-Thierry and he could speak French fluently. He gave a hair-raising description of the battle and told the farmer he had been hit in the stomach with a burst of shrapnel. After he came to he walked two miles back to a first aid station where the doctor sewed him up.

And then to prove his story, he unfastened his suspenders, dropped his pants and bared his stomach to show the horrible scar.

Ray told other stories just as fantastic. I knew that most of his stories were fabrications—and he knew that I knew it, but by his own sincerity I think he came to believe them himself and I never questioned him. He sold feed in the same sincere manner and he never changed his style because it brought in the orders.

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MFMA Schedules Sales Workshops In Three Cities

KANSAS CITY—The 1956 Midwest Sales Workshops will be held in Denver, Ft. Worth and Kansas City in May, according to an announcement by the Midwest Feed Manufacturers Assn. Ralph Everett, Empire Sales Training, Inc., Buffalo, will conduct the series of feeder and dealer selling clinics.

The first meeting will be at the Shirley-Savoy Hotel, Denver, May 14-15; the second at the Worth Hotel, Ft. Worth, May 17-18, and the final clinic will be at the Aladdin Hotel in Kansas City, May 21-22.

Registration blanks have gone out to Midwest members, Lloyd S. Larson, MFMA executive vice president, said. Mills are urged to sign up members of their sales organizations for these clinics, indicating the most convenient location for their attendance, he added.

Soybean, Cottonseed Meal Futures Climb

MEMPHIS — Soybean oil meal futures pushed steadily higher on the Memphis Board of Trade last week, posting advances of as much as $2.60 ton. Cottonseed oil meal went even higher.

The action was in sharp contrast to the drastic selloff of the previous week, when the market was shaken by the sudden liquidation of the March unrestricted soybean oil meal contract.

Higher prices during the past week reflected a somewhat improved demand for cash meal, dealers said. Old crop months received good support from trade interests throughout the period, while speculative buying was the principal sustaining influence in new crop options.

Dealers said there was better demand for spot soybean meal with a rather marked pickup reported in the western sections of the country.

Closing unrestricted soybean oil meal prices ranged $1.85 to $2.60 ton higher, with sales amounting to 16,200 tons. This compares with 36,500 tons a week earlier. Unrestricted open interest increased 51 contracts.

Final Eastern Trunk Line prices were $1.75@2.60 ton higher, with sales amounting to 4,300 tons, compared with 5,000 tons the week before. Open interest increased 74 contracts.

Demand for cottonseed oil meal likewise showed some improvement over the previous week. Final prices were $2.50@4.25 ton higher.

The Memphis Board of Trade inaugurated on March 12 a shipping certificate delivery in the August forward Eastern Trunk Line contracts. It replaces a demand certificate type of delivery. Board officials hope it will broaden activity in the market.

Dr. Walter Judd

NORTHWEST SPEAKER—Dr. Walter Judd, U. S. representative in Congress from Minnesota since 1942, will address members of the Northwest Feed Manufacturers Assn. at their meeting April 5 at the Calhoun Beach Hotel. Dr. Judd, a former medical missionary to China, is considered an expert on Far Eastern affairs. He will discuss Washington and world events at the feed gathering. In anticipation of a larger-than-usual attendance, arrangements have been made to hold the dinner in the ballroom of the hotel rather than in one of the smaller dining rooms.

NEW FEED MILL

FARMERSBURG, IND.—The Knox County Hatchery at Farmersburg is building a new feed mill and warehouse. The mill was designed and machinery is being furnished by Jack H. Brewer of Taylorville, Ill.

EXTRA FEED EFFICIENCY
WITH HARD, SHARP, INSOLUBLE
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GRANITE GRIT
Your customers will like the extra feed efficiency they'll gain from Haven Granite Grit...designed to make the gizzard grind, it aids ready assimilation of every particle of your nutritious feeds.
Available in 6 graded sizes for every type of bird
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OUR "FORMULA"... for serving the formula feed mixers
1. A QUALITY PRODUCT— FROM THE CREAM OF THE SOYBEAN CROP
2. SERVICE— FROM OUR MILL TO YOURS.... AS SCHEDULED!
Here's a formula that works.... FOR YOU!
100 LBS. NET SUNFLOWER BRAND SOYBEAN MEAL
KANSAS PHONE 3000 Soya PRODUCTS CO., INC. EMPORIA, KANSAS
D.F.E. DIRECT FROM EMPORIA

Formula Feed Accounts for 28.3% Of Concentrates Fed to Milk Cows

Tables on Page 71

WASHINGTON—Formula feed accounted for 28.3% of the total amount of grain and other concentrates fed to milk cows in 1955.

This is indicated in a recently issued U.S. Department of Agriculture report on concentrate rations fed to milk cows last year.

The 28.3% figure represents a slight decline from the corresponding 1954 figure of 28.7%. The formula feed percentage has declined slightly each year since the peak of 30.3% was reached in 1952.

Actually, the commercial mixed feed percentage is for milk cows in herds kept by USDA's dairy reporters and technically does not cover all milk cows.

However, assuming the percentage applies to concentrate rations for all milk cows, it is possible to estimate the tonnage of formula feed fed to milk cows.

The total amount of concentrates fed to milk cows on all farms where milk was produced was 18,664,000 tons. Thus, the total amount of formula feed fed to milk cows would be approximately 5,282,000 tons.

The accompanying tables show amounts of concentrates fed to milk cows in the various states and the various individual feed commodities as percentages of total concentrate rations fed in the different states.

Among other things, it may be noted that amounts of concentrates fed per cow are higher on farms where milk or cream is sold than on farms where milk is produced for home use only. Actually, however, the amount of feed going to cows on farms where milk is produced for home use only is relatively small.

Area Differences

As far as types of concentrate feeds used are concerned, the data readily show the differences in feeding practices in different areas. For example, there are wide differences between grain deficit and grain surplus areas, with much more grain or home grown feeds being used in midwestern states than on the east coast or in some southern and western areas.

In Wisconsin, the leading dairy state, commercial mixed feed ac-

(Continued on page 71)

the ticker tape tells the tale

DOW

FEEDSTUFF PRICES VARY... YOU'RE AT A BUYING ADVANTAGE WITH FORMULA FLEXIBILITY THROUGH

Methionine-supplementation

When the ticker lists a good buy for broiler and turkey feeds—remember that methionine-supplementation gives you wider formula latitude. You can adjust formulas to take advantage of current prices. In high-energy feeds, proteins supplemented with methionine are better utilized as building blocks. You have greater versatility in choice of high-energy ingredients of relative nutritive value. You can lower formulation costs without lowering feed quality because added methionine *balances* any variation in natural methionine when you use feed ingredients interchangeably. That is why many feed mixers include methionine-supplement in all registrations of broiler and turkey feed formulas. We shall be glad to furnish your nutritional adviser with complete information. THE DOW CHEMICAL COMPANY, Agricultural Chemical Sales Department, Midland, Michigan.

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DOW

Production, Utilization and Marketing Research Urged by Livestock Committee

WASHINGTON—Expanded breeding research to develop more profitable beef cattle; studies of how environmental factors in sheep production affect output of lambs, meat and wool; and intensified work to determine the place of animal fats in human nutrition were among top-priority research needs in the field of animal agriculture cited by the U.S. Department of Agriculture's Livestock Research & Marketing Advisory Committee at its recent meeting in Stillwater, Okla.

Established under the Research and Marketing Act of 1946, the committee meets annually. During the meeting, held on the campus of Oklahoma A&M College, the committee visited livestock research facilities at the college.

Members spent the final day of the session at the U.S. Beef Cattle Research Station, Ft. Reno, Okla., where they reviewed cooperative work by USDA's Agricultural Research Service and the Oklahoma Agricultural Experiment Station on beef-cattle breeding, including studies of dwarfism and on swine breeding.

Other Studies Urged

In the field of livestock-production research, the committee emphasized the importance of initiating studies aimed at control of insect carriers of such livestock diseases as anaplasmosis and blue tongue.

Among other high-priority research needs cited by the committee in this field were expanded work on the effects of estrogens (including stilbestrol) and other hormones on the feed efficiency of livestock, and further research on the control of weeds and brush in pastures and on rangelands.

Utilization-research proposals endorsed by the committee, in addition to studies of the role of fats in human diets, included expanded research on the chemical composition of forage crops in relation to their nutritive value; investigations of factors affecting the tenderness of meats, including development of better objective methods for measuring meat tenderness; and development of more reliable and convenient methods for objectively determining the palatability of animal products for human food.

Among proposals in the field of marketing research given high priority by the committee were studies of the economic effects of federal meat grading on the production, marketing and consumption of meat products; work to determine the effectiveness of current advertising and promotional programs on retail sales of lamb and mutton; and an exploration of existing and potential markets for domestic oils and fats in the production of plasticizers required in the manufacture of plastics.

Members of the committee include representatives of all sections of the meat trade.

Paul M. Feist

JOINS RANCH-WAY—New manager of the poultry and turkey department of the Ranch-way Feed division of the Colorado Milling & Elevator Co. is Paul M. Feist. Mr. Feist recently left his position as southeastern poultry and turkey service manager for Archer-Daniels-Midland Co. to accept the Ranch-way post in Denver. He is a graduate of the University of Minnesota and for several years was Minnesota sales manager for Hilltop Laboratories.

TO INSTALL EQUIPMENT

LAYTON, UTAH — A molasses mixer and four bulk feed bins will be installed at the James Morgan & Sons Feed Mill, according to Vern Sandall, manager.

"My Purina Dealer EARNS my business"

—says C. B. Osteen

"Jim Ratliff (right), our Purina Dealer, and Cecil Reeves (left), Purina outside salesman, make regular calls to my place to offer helpful feeding and management advice. This is one of the service extras Jim gives us."

"My Purina Dealer, Jim Ratliff of Ratliff Farm Service at Ranger, Texas, fully explained the caged hen business to me, helped us get started, and I've never regretted it," says C. B. Osteen, Route 3, Ranger, Texas. "The Ratliff organization really takes care of my needs. They help me in marketing my eggs . . . come out and help me with management and disease prevention. They take a personal interest in my operation here . . . and back up that interest with service."

Purina Dealer James Ratliff (left) talks things over with his salesmen Raymond Birdwell (center) and Cecil Reeves.

"Purina Franchise Means Service"

"My Purina Franchise means that I'm able to offer farmers in this area some of the best feed, with the best feeding and management programs available today," says Ratliff, owner of Ratliff Farm Service. "I've also got access to the many, many services offered by the great Purina organization with its more than 60 years of experience in research, manufacturing and feeding.

"Purina's training for dealers and dealer employees is extremely valuable. Helps us bring the farmers the latest information on feeding, sanitation and management. The Purina salesman helped me train and select my outside salesman . . . we increased our turkey and caged hen business due to his recommendations.

"As a Purina Dealer, my motto is *service*. I'm proud to be one of the thousands of independent dealers throughout this country doing business at the Store with the Checkerboard Sign."

★ ★ ★ ★

You can get details on the Purina Franchise by writing

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CCC Fine Grind Calcium Carbonate STAYS PUT

With CCC Fine Grind Calcium Carbonate you get peak distribution in your feed . . . this helps the animal to give peak performance.

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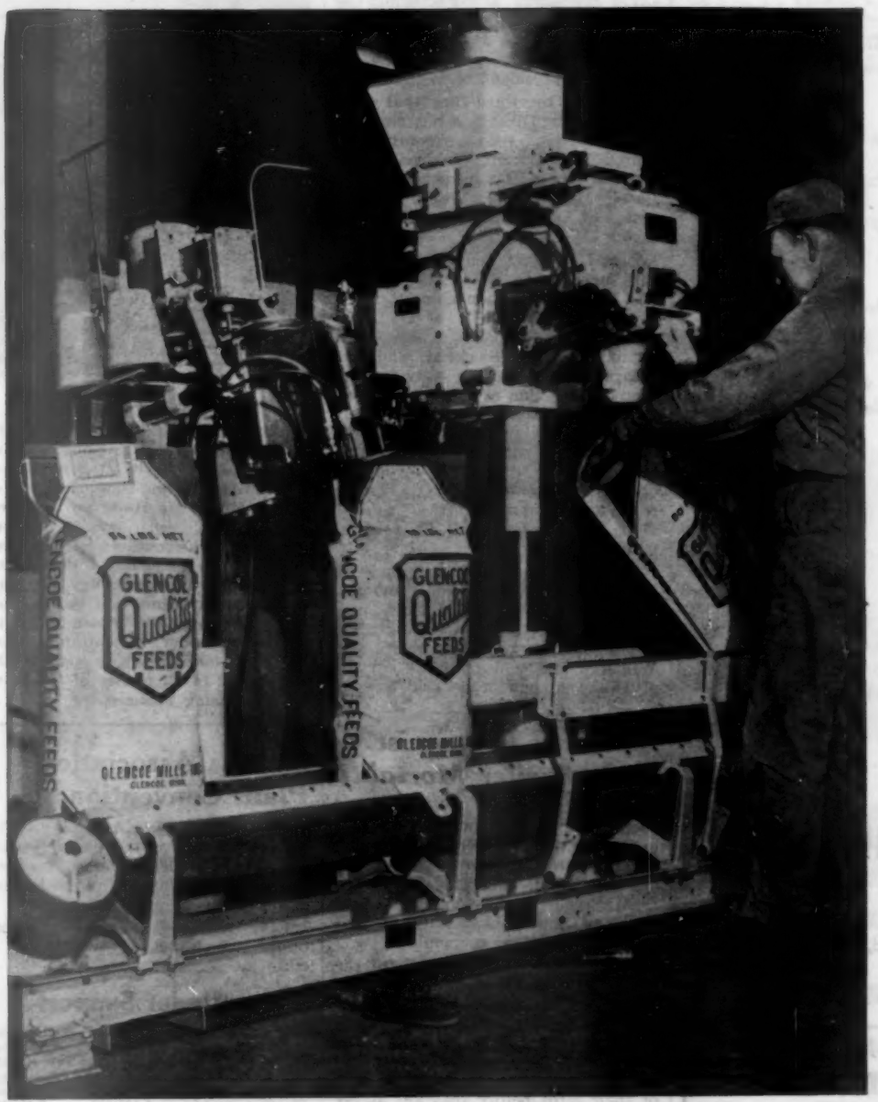

At last... big packer performance at little packer price...

Here is a lightweight, portable, automatic performer that will handle any product that establishes an angle of repose. Typical examples: rice, sugar, corn, cracker meal, poultry feeds, granite grits, salt and dry chemicals.

Bemis Packer-Ette will reduce your costs through accuracy, speed and efficiency. It is just the packer for you in any operation that does not justify a heavy-duty permanent installation.

Packer-Ette gives you so many benefits and features that it is impossible to do more than hit the high spots here. You'll want to get *all* the facts. Ask your Bemis Man . . . or write us for folder and details.

JUST LOOK . . .

SPEED—Up to eight 100-lb. bags per minute, depending on flow characteristics of your product.

ACCURACY—Plus or minus 2½ ounces or better on 100-lb. bags, depending on product characteristics. Self-aligning and self-cleaning knife edges of the scale assure consistent, accurate weights.

OPERATING EASE—The operator places an empty bag on the filling tube and starts the cycle by depressing the foot switch . . . that's all. The bag holder opens automatically when the filling cycle is complete. All controls are at eye level.

BEMIS VICON® FEEDER—A unique means of moving products from supply hopper to scale beam; a two-stage pulsating feeder tray first feeds rapidly, then at a rate which can be controlled for accuracy. When the exact weight is reached, the feeder cuts off and the filled bag is deposited automatically on the sewing machine conveyor.

CAPACITIES—From 25 lbs. to 150 lbs. Easily adjustable for varying bag sizes.

TAKES LIMITED SPACE—Width, 26″; depth, 42″; maximum over-all height, 97⅛″; minimum, 76″.

LIGHT AND PORTABLE—Shipping weight, 600 lbs. Portable mounting for use in various locations.

NO INSTALLATION SERVICE—Just move it in and plug into a 110-volt, 60-cycle line. All electrical equipment enclosed in cast-iron explosion-proof boxes.

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BO-DEE STABLE VITAMINS D2 and D3— Stable even in the presence of minerals.

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CLOROFOLEN® The clinically proven Dog Food Deodorant

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BRINGS BUYERS BACK! Detorf expands and absorbs to cover more area and trap more moisture. When poultrymen see how dry and pleasant it keeps the poultry house they buy Detorf for all their litter —not just the built-up layer. When removed, Detorf litter has high fertilizer value plus excellent soil conditioning effect.

EASY TO STOCK! Detorf bales are full size, tightly compressed, securely packed to ship thousands of miles. Sizes for large and small users. Prompt handling of orders from plants strategically located so that shipping schedules can be met on short notice.

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Williams Firm Buys Dixie Machinery Line

ST. LOUIS—The process and feed hammer mill business of the old Dixie Machinery Manufacturing Co. has been acquired by the Williams Patent Crusher & Pulverizer Co. of St. Louis, according to Ray F. Schneider, president of Williams.

This was the third time that ownership of the Dixie line has changed hands within recent months. In March, 1955, Sprout, Waldron & Co., Inc., Muncy, Pa., purchased from Bath (Maine) Iron Works all the assets of Dixie Machinery Manufacturing Co.

Last Dec. 30, Sprout-Waldron sold this business to W. L. Siegerist of St. Louis, former machinery manager of the Medart Co. of St. Louis, manufacturer of power transmission appliances. Mr. Siegerist and his associates planned to service and promote the line of Dixie machines, but developments prompted their concluding to withdraw from this venture. As a consequence, they sold the patterns, drawings, inventory, etc., incidental to the further servicing and promoting of the sale of Dixie machines to the Williams company.

Mr. Schneider said his company intends to supply repairs and replacements for existing Dixie machines. The personnel of the old Dixie organization is being taken over by Williams and will maintain service of Dixie equipment, he said.

Delaware Economist Cites Broiler Mortality

NEWARK, DEL. — With 10% of their young birds dying from accident or poultry ailments before they reach market age, Delaware broiler growers face a bill averaging $2,500 per farm a year from such losses, says Dr. Ray Smith, University of Delaware agricultural economist.

The average amount that the state's thousand-or-so broiler growers spend on vaccination and medicines amounts to about $35 per thousand birds, Dr. Smith says. Some spend as much as $75. Even so, he adds, many growers lose as many as 10 to 20% of their birds before they get as far as the inspector at the dressing plant. Total cost to the state's poultry industry amounts to $2.5 to $3 million a year, he says.

Some growers manage to keep their losses to only 2 to 3%. Just to keep a flock of broilers in good health these days, runs about 5% of the total cash costs for raising them, Dr. Smith says.

Growing Importance Of Automation Noted

BUFFALO—The growing importance of automation in the production of feeds was stressed by Ward R. Flach at the annual spring meeting of the Niagara District 8, Association of Operative Millers, March 24 in Hotel Markeen. Mr. Flach is in charge of quality control for the Town of Tonawanada plant of the Eastern States Farmers Exchange Inc.

The new electronic and pneumatic systems have made feed blending far more accurate than heretofore, Mr. Flach declared. It has been made necessary, he added, because of the complicated feed formulas now used.

MILL ADDITION

VINCENNES, IND.—The Standard Milling Co here has built an addition to its present elevator to extend complete custom grinding facilities. New equipment has been added, including hammer mill, mixers, storage bins and conveying and elevating equipment. The mill layout was designed by Jack H. Brewer, Mill Equipment Sales, Taylorville, Ill.

Lloyd Hultgren

APPOINTED — Pillsbury Mills, Inc., has announced the appointment of Lloyd Hultgren to its staff of turkey specialists. A long-time resident of Wells, Minn., Mr Hultgren has been assigned to work with growers throughout the southern part of Minnesota. Prior to joining Pillsbury, he managed the Downs Turkey Hatchery in St James, Minn, and before that was manager of the Wilson Hatchery at Wells. Earlier, as a branch plant manager for Musser & Co., Wells, he worked in all phases of the poultry processing business.

Kansas Association Plans Convention

HUTCHINSON, KANSAS — The 59th annual convention of the Kansas Grain & Feed Dealers Assn. has been scheduled for May 3-5 at the Kansas Hotel, Topeka.

O. E. Case is secretary-treasurer of the association.

Crops Under Support

	Total Under Support Thru Feb. 15, 1956	Total Under Support Thru Feb. 15, 1955
Barley (bu.)	95,289,961	114,163,342
Corn (bu.)	300,197,970	130,941,940
Flaxseed (bu.)	8,463,319	9,876,189
Oats (bu.)	67,852,041	73,827,844
Rye (bu.)	12,526,960	7,198,427
Soybeans (bu.)	29,937,938	41,030,951
Wheat (bu.)	316,297,461	426,106,960
Dry edible beans*	2,532,730	3,976,033
Grain sorghums*	58,939,849	64,136,460
Rice*	26,042,405	30,441,044

*(cwt.)

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Phone FE 5-3913 — Teletype: MP 344
WHOLE and GROUND GRAINS and SCREENINGS
MINNEAPOLIS, MINNESOTA

SPECIALTY INGREDIENT SALES
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68 Salesmen in U. S. and Canada calling on feed manufacturers. Here's your opportunity to get national coverage over-night. Presently handling one ingredient. Tops in our field.
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IRRADIATED DRY YEAST
RICH IN VITAMIN D FOR FOUR-FOOTED ANIMALS

Increase YOUR feed business . . .

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MILL AND MIXER UNITS

Win new customers — increase tonnage volume with CHAMPION mobile grinding and mixing equipment!

Your customers are vitally interested in any service and equipment which helps them reduce their feed costs. CHAMPION on-the-farm feed processing service is a time and labor-saving convenience the modern farmer needs. They welcome this service because the CHAMPION grinds their own grain and roughage into feed, mixed and blended with molasses and concentrates—right on the farm. These formula feeds can then be bagged if desired, or conveyed directly from the mixer into feed bins or feeders, without further handling.

CHAMPION units take YOUR feed business right to the feed lot—and provides your customers with the best in mobile grinding and mixing service. CHAMPION'S powerful, all-hydraulic mobile units will outperform any other grinding and mixing units. With its big, 110-cu. ft. capacity—with its faster grinding, and more accurate blending and mixing action, you'll spend less time on each job and process more feed in a day.

CHAMPION units keep you in touch with your customers! With ON-THE-FARM service you'll win new customers, too, extend your business, and increase your sales of concentrates.

Don't pass up the splendid opportunities for increased business with CHAMPION on-the-farm sales in your trading area. Write for full information now!

YOU CAN PAY MORE MONEY, BUT YOU CAN'T BUY BETTER FEED GRINDING AND MIXING EQUIPMENT

CHAMPION PORTABLE MILL CO.

2109 COMO AVENUE SOUTHEAST • MINNEAPOLIS 14, MINNESOTA

Change Made in Commercial Beef Grade

WASHINGTON — The commercial grade of beef will be divided into two new grades designated as standard and commercial, the U.S. Department of Agriculture has announced. The present grades for beef are prime, choice, good, commercial, utility, cutter and canner. The new grades will become effective June 1, 1956.

The division of the present commercial grade is being made on the basis of maturity and the grade name "standard" will be applied to beef from younger animals of the grade. The name "commercial" will be retained for beef from mature animals falling in the present commercial grade.

This revision was originally recommended by the Cattle & Beef Industry Committee and was published as a proposal in the Nov. 15, 1955, Federal Register. Comments were received on the proposal for a period of 60 days. A substantial majority of the comments received from individuals and organizations was in favor of the proposal as published, USDA said.

The present commercial grade includes carcasses from animals within the full range of maturity as animals are marketed. It differs in this respect from the prime, choice and good grades which are restricted to carcasses from relatively young cattle.

It was the opinion of the committee that it is impractical to merchandise, under the same grade designation, beef from young animals which may qualify for the commercial grade with only a small quantity of fat together with beef from much older animals which is required to have a much greater degree of fatness.

Also in some sections of the U.S. where substantial portions of the younger type of commercial beef are produced and consumed, it is believed that some of this type of beef is not now being federally graded because of prejudice against the name "commercial" which has come to be associated with beef from older animals.

It was the committee's opinion that, if commercial beef as produced from young cattle were segregated from that produced from older cattle and also given an appropriate name, a greater proportion of the younger beef would be federally graded. This would result in increasing the marketing efficiency for meat of this grade and be beneficial to both producer and consumer.

To Manage Branch

LOUISVILLE, KY. — Joe W. Benning, manager of the Louisville operation of Master Feed & Seed Co., who has been with the company for more than five years, has been transferred to the company's newest branch store at Cedar Rapids, Iowa. Robert W. Hughes, a salesman for the company at the Louisville branch, has been made manager of the Louisville division.

Nopco Earnings and Sales Hit New Highs

HARRISON, N.J.—Both the sales and earnings of the Nopco Chemical Co. in 1955 were the highest in the history of the company.

Earnings of $3.05 per share on the 492,238 shares of Nopco stock surpassed the 1954 record of $2.66 per share of 484,238 shares by 14.7%. Net sales exceeded the 1954 figure by $2,380,000 or 11.5%.

These facts were revealed in the annual report to Nopco stockholders. The report also pointed out the rise in the common stock dividend rate over the previous year.

During 1955, Nopco raised its regular common stock dividend from 30¢ quarterly in 1954 to 35¢ quarterly in March and June, and then to 40¢ in the September and December quarters. In November an extra dividend of 25¢ was declared, payable in January, 1956. Dividends of $4 per share were declared and paid during the year on the preferred stock outstanding.

Founded in 1907, Nopco produces a number of products including synthetic organic chemicals and vitamin products. It has plants in Harrison, N.J., Richmond, Cal., Cedartown, Ga., and London, Ont., Canada.

REMODELING MILL

HAUBSTADT, IND. — The Dewig Mill & Elevator here is now being remodeled by Clarence and Ray Dewig, who purchased the old Ziliak and Schafer Mill & Elevator some time ago. The property had been inoperative. The Dewigs are remodeling, installing new equipment and relocating machinery and will do custom grinding and mixing. They will handle Wayne feeds and other farm supplies. The machinery and layout are being furnished by Jack H. Brewer, Mill Equipment Sales, Taylorville, Ill.

You build nutrition into your feeds

—let Tenox keep it there!

As a feed manufacturer, you take great pains to be sure the product leaving your plant possesses the proper nutritional value. But how long it will *retain* its full value, depends to a great extent on the stability of the fats you use in it.

With the wide variety of inedible fats and meat scraps processed by renderers today, it is more important than ever that these fats be stabilized with a Tenox antioxidant. By protecting the fats against rancidity, Tenox helps preserve the nutritional value and vitamin content of the feed. At the same time, Tenox helps prevent the development of off-flavor and bad odor, keeping the feed fresh and palatable.

In recommending Tenox to your renderer, you can be sure of receiving greases and tallows of maximum stability. As the leading supplier of food-grade antioxidants, Eastman offers users the widest range available. Our long experience enables us to suggest not only effective and reliable formulations, but also the most efficient method of adding them.

If your renderer is not already using Tenox, tell him you want the protection of these effective antioxidants in the fats you buy. Tenox is your best guarantee that your fat-containing feeds will retain their nutritional value—and customers.

EASTMAN CHEMICAL PRODUCTS, INC., subsidiary of Eastman Kodak Company, KINGSPORT, TENNESSEE.

Tenox

Eastman food-grade antioxidants

Make Your Poultry Feeds Do More Work

SELL STONEMO

the grit with the

EXTRA GRINDING SURFACES

STONE MOUNTAIN GRIT CO., Inc.
Lithonia, Georgia

IT'S ECONOMY WISE TO JERSEEIZE WITH JERSEE

VITAL-MIN a Pre-Mix

VITAMINS MINERALS

Made by the founders of VITAMINIZED and MINERALIZED CONCENTRATES since 1932.

Jobbers and Warehouses From Coast to Coast

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WRITE TODAY FOR DEALERS SALES HELPS!

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Trace minerals in salt have a tendency to segregate, or separate out, during handling. Exhaustive shake tests *prove that the addition of Propylene Glycol definitely controls segregation... that it does a much better job than other anti-segregation compounds commonly used. Thus, no matter how roughly Morton Trace-Mineralized Mixing Salts are handled before use, you will find that the trace minerals remain evenly distributed in the salt. That helps you maintain the uniform quality and nutritive values of your formula feeds.*

New! PROPYLENE GLYCOL* in Morton Formula "L" Mixing Salt

stops uneven distribution of trace minerals in formula feeds

* Propylene Glycol is a superior anti-segregation compound patented by Morton Salt Company for use in mixing salts. Like all other ingredients in Morton Formula "L" and Formula "P" Mixing Salt, it is proved by research to be the finest obtainable.

Availability of minerals and palatability unaffected. Research also demonstrates that Propylene Glycol does not reduce the availability of trace minerals... neither does it affect palatability. Here again, its use by Morton helps you produce finer feeds. You can get prompt delivery of Morton Mixing Salts, anytime, anywhere in the U. S. Order your needs today.

GUARANTEED ANALYSIS OF MORTON FORMULA "L" AND FORMULA "P" SALTS

Ingredients		Formula "L"	Formula "P"
SALT	*not more than*	98.1%	96.8%
SALT	*not less than*	96.0%	94.6%
MANGANESE	*not less than*	0.582%	1.12%
IRON	*not less than*	0.3%	0.516%
COPPER	*not less than*	0.06%	0.042%
COBALT	*not less than*	0.012%	0.024%
IODINE	*not less than*	0.011%	0.023%
ZINC	*not less than*	0.006%	0.006%

Mail this coupon for full information on Morton Mixing Salts

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MORTON MIXING SALTS

FORMULA "L"—FORMULA "P"—IODIZED MIXING—SPECIAL MIXING

HANDLING LIQUID INGREDIENTS

• • •

By Oak B. Smith

EDITOR'S NOTE: With the increased use of animal fats, molasses and other liquid feed ingredients, feed mill operators have been focusing a good deal of attention on the handling and mixing of liquid materials. The accompanying article includes comments and suggestions on the handling, storage and mixing of liquids used in manufacturing feed. The article is the text of a talk presented by Oak B. Smith of the Wenger Mixer Mfg. Co., Sabetha, Kansas, at the convention of the Washington State Feed Assn. in Yakima.

• •

First, what are we discussing as liquid feed ingredients? To list them in order of their importance to the feed industry, we are discussing molasses, animal fats, fish solubles, semi-solid whey products, fermentation solubles, vegetable oils, and such other liquid ingredients as betaine, lecithin, vitamin feeding oils, etc.

In order to discuss the problems surrounding the handling of liquid feed ingredients, I think it might be valuable to make some general statements as to the nature of liquid feed ingredients.

In the first place, the liquids we are discussing are basically by-products of a processing industry and are not manufactured as the primary item of production.

For that reason, liquid feed ingredients are generally not refined in any real sense, and standardization may be at a minimum. Many liquid feed ingredients contain a number of foreign materials, lumps and residual wastes. Most of them vary in moisture content from one lot to another. They will also vary in viscosity from one lot to another, and most of them change in viscosity with increases in temperature. These variations present real problems in metering. Since these liquids are not uniform in their characteristics, we must recognize and equalize these variables as far as possible in metering these liquids.

The metering of these liquids often

Oak B. Smith

proves difficult by comparison with liquids we are used to metering, such as water, gasoline, natural gas, etc. This limitation in metering can best be gotten around by standardizing the conditions of the liquid as far as possible, and that includes standardization of temperature, of pumping pressures, and of rates of flow. Especially, it should be remembered that over-heating of most of these liquids will produce gases in the liquids, thus adding another hazard to satisfactory metering.

DANGERS IN HANDLING OF LIQUIDS—There are a number of hazards to watch for in handling the various liquid feed ingredients:

1. Moisture is dangerous to molasses, to fats and to whey products.

2. Overheating is dangerous to most liquids. Molasses will carmelize on the coils, and we may expect some inversion of sugars when molasses is overheated. A build-up of a layer of charred sugars on the heating coils will insulate the coils. In animal fats, the stabilizers can be broken down if the fats are overheated, thus rendering a danger of rancidity of feeds. Dissipation of the essential amino acids may be encountered if fish solubles and condenser wheys are over-heated, with appreciable losses by each of those liquids in riboflavin, niacin, pantothenic acid and choline, where those liquids are over-heated.

3. There are also dangers of con-

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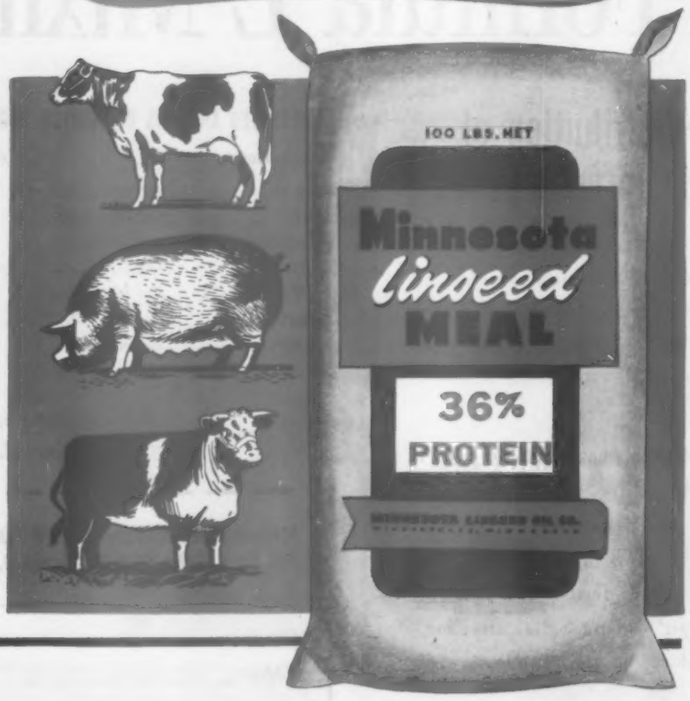

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tamination in handling liquid feed ingredients. Both molasses and whey products will support fermentation easily, and contamination in molasses can also cause wild molasses.

Animal fats become rancid when brought into contact with copper, bronze or rubber, and it is necessary to keep animal fats away from these materials.

4. Dangers to personnel can also come about if it should become necessary to lower a man into tanks which have contained molasses, fish solubles or animal fats. These liquids can produce harmful gases in storage tanks, and it is recommended that you should never lower a man into such tanks without a life-line, or without a helper to pull him out in case of asphyxiation.

STORAGE OF LIQUID INGREDIENTS—Factors to consider in connection with the storage of liquid feed ingredients include:

1. Size of storage tanks—Generally, in selecting the size of tank you will require for an individual liquid, we feel that you should install tanks at least 1½ times the size of the maximum receiving unit you will use. For example: If you receive your liquids in standard 2,800 to 3,000-gal. tank truck lots, I believe you should use a tank of 4,200 to 4,500-gal. capacity.

2. Location of tanks—Location of tanks will be determined by the physical layout of the plant, of course, but may also be affected by other considerations. For example, in some areas insurance rates on plants with fat storage tanks in the basement will be higher than when tanks are located outside of the mill.

In locating storage tanks, consideration should also be given to the optimum holding temperature requirements of the liquid, danger to condensation of atmospheric moisture inside the tank and steam requirements.

3. Construction of tanks—Steel tanks are probably the most universally acceptable (and probably the cheapest) type of tank construction with danger of corrosion being the greatest drawback. Cement tanks are satisfactory for molasses, fish solubles, and when properly sealed, can be used for both fats and whey products. Wooden tanks have been used for all the water soluble liquid feed ingredients but, generally, seem to be limited to storage of whey products in many parts of the country. Steel tanks may be rectangular or cylindrical and may be mounted horizontally or vertically.

Generally, I believe that flat bottom tanks should be equipped with false bottoms, if possible, to permit complete emptying, and for purposes of better agitation for those liquids which require agitation. Cement tanks should be of monolithic construction, and steel reinforcing is recommended. Remember that molasses is nearly 1½ times as heavy as water, and this must be kept in mind in building cement tanks. All storage tanks must be well vented, and built-in heating coils are required for animal fat storage tanks. Agitation in storage tanks is recommended for animal fats, fish or fermentation solubles, and whey products.

4. Storage tanks, pumps and liquid lines—We feel that the most satisfactory type of pump to be used on all liquid feed ingredients is the rotary gear type pump, with a gear reduction drive so that pump is operated from 150 to 190 RPM. However, some screw type pumps, as well as direct acting reciprocating steam pumps, have been successfully used. Horsepower requirements will increase substantially in cold weather, and liquid pipe lines of insufficient size will also require increased pump horsepower, especially in cold weather.

Pumps should be positioned as close to the storage tank as possible, and

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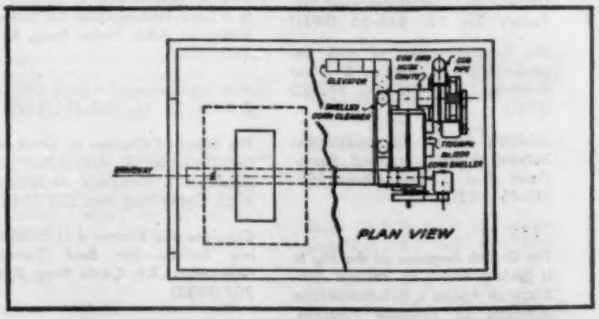

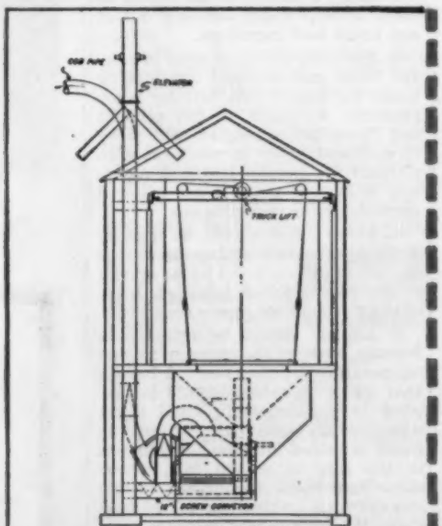

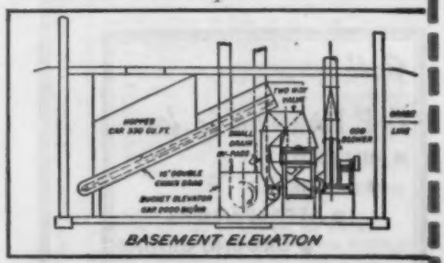

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lines leading to the pump should be 1 in. larger than the pump size itself, nipple down to pump size at the intake side of the pump, and a line 1 in. larger than the pump size should be installed above the pump to the heat conditioning or mixing unit. The reason for this larger pipe size is because of impediments to flow in line friction and because of adhesive characteristics of most liquid feed ingredients.

For example, at 30 to 40° F. temperatures, molasses is so viscous that you may have an area no larger than a lead pencil in the center of the pipe through which molasses will move freely in a 2-in. line. When this occurs, molasses pumping will necessarily be slow, the horsepower requirements for the pump will increase rapidly and pump wear will be increased substantially.

Therefore, use lines to and from your pump which are at least 1 in. larger than the pump itself. Use gate valves in all liquid lines, rather than globe valves. Such valves are suggested at the outlet of all storage tanks, and at both the inlet and the outlet of liquid conditioning tanks. A pressure relief valve (equipped with adjustable pressure control and pressure gauge) should be installed above the storage tank pump, with a return line on the pressure relief side leading back to the storage tank or tanks.

MIXING LIQUIDS IN MASH FEEDS — Before we commence the discussion of mixing of liquids into feeds, I should like to state several general conclusions which I believe to be valid, and which you may want to use as a foundation upon which to build a liquid-applying system.

These are:

1. Liquids should be heated in the storage tank only where such heating is necessary to keep liquid in fluid state. Hence, heating in storage tanks is necessary only for animal fats.

2. Every available means should be used to keep added moisture out of any liquid feed ingredient.

3. Agitation should be used in storage tanks and in liquid conditioning tanks for animal fats and for whey products. Agitation of fish solubles and fermentation solubles will prove of sufficient value in most cases to warrant the expense involved. Agitation in storage tanks is not required for molasses or vegetable oils.

4. Every effort should be used to avoid over-heating of any liquid feed ingredient, at any point in the system (and this includes localized overheating around the steam coils.)

5. Liquids should be mixed into formula feeds at the optimum mixing temperature for that liquid. I believe that all of this heat should be applied to the liquids in small liquid conditioning tanks just before the liquid is mixed into the feed, except in the case of animal fats, where some heat must be applied in the storage tank to keep the fat in fluid state. We believe that optimum mixing temperatures for various liquid feed ingredients fall within the following ranges:

Molasses	95-105°F.
Animal fat	160-175°F.
Fish solubles	80- 90°F.
Fermentation solubles	85- 90°F.
Semi-solid Condenser wheys	50- 60°F.

And may I emphasize the use of the word "optimum" in connection with these recommended mixing temperatures? Molasses, for example, can be mixed fairly well at low temperatures of 40-50° F. However, horsepower requirements for the molasses mixer and for the molasses pumps will be much higher at these temperatures than at the recommended optimum and the molasses will not be so completely absorbed in the feeds at low temperatures as at the optimum temperature suggested. Therefore, feed is more likely to set up in the bag when cold molasses has been applied to it, than when the same percentage of 97-105° molasses has been mixed into it.

Other considerations, including the danger of carmelization, the inversion of sucrose sugars and the formation of gases within the molasses, will keep us from recommending temperatures higher than the suggested optimum. Similar considerations have led to the selection of the above optimum suggestions for other liquids.

Mixers

Several basic types of mixers are produced today for applying liquids to pre-mixed mash feeds. Your selection of a mixer to do the specific job you want done should depend upon the nature of the liquids you desire to mix; the percentage of liquid you desire to apply; the type of feed or feeds to which liquid or liquids are to be applied. It will, of course, also depend upon whether you are doing commercial mixing of branded feeds or custom milling.

Molasses Mixers for Custom Millers —There are several basic types of molasses feed mixers produced especially for custom mixing operations.

1. High Speed Mixers (900-1200 RPM on mixing shaft)—These mixers generally are equipped with inclined auger feeders to feed mixed feeds from a vertical mixer; or equipped with both inclined auger feeders and hopper bin model percentage feeders. These mixers are usually equipped with a gear-type molasses pump, adjustable pressure relief valve, molasses control valve, molasses meter and, in some cases, with built-in molasses heat conditioning tanks equipped with beating coils and a molasses recirculating feature.

The high speed mixing principle gives rather uniform mix of molasses in the feeds, and generally should not leave any balls of molasses in the feeds. These units are sometimes operated with variable speed drives on the mixer shaft so that feed containing crimped or rolled grains may be handled at lower speeds to preserve the visual identity of these ingredients, while still retaining the advantages of high speed mixing for all other types of feed.

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A partial list of published scientific reports referring to use of Micratized A and D vitamins

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Some of the studies compare the stability of Micratized vitamins with other sources of vitamins A and D. Some pertain to subjects only indirectly involving vitamins. In these studies, Micratized vitamins were used because valid results could not be achieved unless vitamin potency was certain.

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Further inquiries in connection with these published reports will receive prompt attention. Write to the Technical Service Bureau.

1951

The Growth Promoting Effect of Various Antibiotics in Pigs. J. Animal Sci. 10: 538-42 (1951)

Studies on the Enlarged Hock Disorder in Turkeys. 3. Evidence of the Detrimental Effect of Fish Liver Oil. Poultry Sci. 30: 846-55 (1951)

The Supplementation of Milk Replacements with Enzymes & Other Products. J. Animal Sci. 10: 975-80 (1951)

Evidence for an Interrelationship between Vitamin B_{12} and Pantothenic Acid. J. Biol. Chem. 192: 141-46 (1951)

1952

The Growth Response of the Pig to a Dietary Source of Various Antibacterial Agents & to Intramuscular Injections of Procaine Penicillin. Antibiotics & Chemotherapy 2: 259-64 (1952)

—The Efficacy of Various Antibacterial Agents for Stimulating the Rate of Gain in the Pig. Antibiotics & Chemotherapy 2: 421-26 (1952)

Trace Minerals, B-Vitamins, Alfalfa Meal & Antibiotics as Supplements to a Corn-Tankage Diet for Swine. Nebraska A.E.S. Swine Prog. Rpt. 305 (1952)

Milk Replacements for Dairy Calves. J. Dairy Sci. 35: 336-41 (1952)

The Effect of Fineness of Grind on the Digestion & Assimilation of Bonemeal & Limestone. Nebraska A.E.S. Cattle Prog. Rpt. 205 (1952)

Carotene and Vitamin A in Wintering Rations for Beef Calves. Nebraska A.E.S. Cattle Prog. Rpt. 207 (1952)

An Investigation on the Optimum Levels of Protein & Aureomycin for Weanling Pigs Fed in Drylot. Nebraska A.E.S. Swine Prog. Rpt. 308 (1952)

Further Investigation of the Effect of Adding Trace Minerals to a Corn-Tankage Ration for Weanling Pigs Fed in Drylot. Nebraska A.E.S. Swine Prog. Rpt. 310 (1952)

Response of Growing-Fattening Pigs to Bacitracin, Aureomycin & Other Supplements. J. Animal Sci. 11: 84-91 (1952)

1953

Effect of Methionine Supplementation & Different Protein Levels on Growth & Feed Requirements of Broiler Chickens. Maryland A.E.S. Misc. Pub. 148 (1953)

Vitamin A Supplementation for Range Cows. South Dakota A.E.S. 13th Animal Livestock Feeders' Day Report, p. 11-14 (1953)

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Mixers—These mixers usually operate with a shaft speed of from 200 to 600 RPM, and are generally equipped with inclined auger feeders to work directly from vertical batch mixers. Some of these units are equipped with adjustable paddles and usually are supplied with gear type molasses pumps, pressure relief valve, molasses control valve, and molasses meter. The slower speed of these mixers permits some ingredient identification of crimped or rolled grains but sometimes leaves balls of molasses in the feeds. These mixers are usually supplied with molasses directly from the storage tank, and any heating of the molasses which is done will generally be done in the storage tank itself.

Mixing of Branded Feeds — The commercial mixing plants (other than custom mixers) generally require more accurate and uniform application of liquids to their feeds than will be required in custom milling operations. They usually will need much greater mixing capacity and often require the application of several liquid feed ingredients, including molasses, animal fats and fish solubles. A trend is also developing toward the increased use of semi-solid whey products.

I believe that liquid feed ingredients used in commercial feed manufacturing should be pumped from the liquid storage tanks into small liquid conditioning tanks, where the liquid is heated to its optimum mixing temperature.

These tanks should be equipped with automatic liquid level controls to maintain the level of liquid in the conditioning tanks at the desired point for uniformity of liquid temperature in these tanks. Usually these tanks should be equipped with built-in heating coils, and automatic steam regulator valves should be used to maintain the optimum liquid temperature.

Low pressure steam is recommended for all liquid feed ingredients in order to avoid localized over-heating of the liquids. Circulating hot water may be used in tanks instead of steam (for all liquids except animal fats), but low pressure steam is generally preferred. These liquid conditioning tanks should be equipped with built-in liquid agitators for those liquids which require agitation (including animal fats, some grades of fish and fermentation solubles and for liquid wheys). Liquids are usually pumped from these tanks using some type of positive displacement pump for greatest uniformity of rate of liquid application in the mixing unit, and good metering equipment is essential to check the rate of liquid application, so that the desired percentage of liquid application may be maintained.

It should be stated that these liquid conditioning tanks should generally be used for each liquid feed ingredient you desire to use, and no attempt should be made to mix several liquids in a single conditioning tank.

Other means of heating liquids are in use, including single action and double action heat exchangers, but I believe that the above suggested system will be found more satisfactory than tubular double action heat exchangers, and I feel that the use of single action heat exchangers cannot be recommended due to the danger of localized over-heating.

Types of Mixers

There are several types of mixers manufactured today for the application of liquids to pre-mixed mash feeds by the manufacturers of branded feeds:

(A) High Speed Mixers (shaft speed 800 to 1200 RPM) — Equipped with hopper bin model percentage feeders, those mixers are usually operated with a single shaft upon which adjustable beaters or paddles are mounted. Some of these mixers are supplied with variable speed drive mechanisms, or with two-speed motors, so that the speed of the mixer shaft may be slowed down for those feeds containing crimped or rolled grains. Some of these high speed mixers are supplied with built-in conditioning tanks and liquid feeders, as previously mentioned.

The simultaneous application of several liquid feed ingredients may be satisfactorily obtained in some of these mixers, if the mixer is equipped with sufficient mixing capacity, and provided that each liquid is fed to these mixers at a uniform rate of flow, and at the optimum mixing temperature for that liquid.

(B) Slow Speed Duplex Type Liquid Mixers—Mixers of this type are operated with shaft speeds of from 50 to 500 RPM in many cases, and seem to be most successfully used on the lighter, bulky type of feeds such as dairy feeds. They are usually fed from overhead hopper bottom bins, and the liquid feed ingredients should be fed to them from the liquid conditioning feeders, previously mentioned. These mixers permit the handling of rolled or crimped grains in their lower speed ranges, with product identity maintained. However, they sometime leave balls of liquids in the feed — especially in the lower speed ranges.

It might be mentioned here that several remote automatic liquid control devices have been placed on the market and some of these are in use with this type of equipment, so that the operator can control liquid flow some distance from the mixer itself. These devices have been used with success by several manufacturers, and seem fairly satisfactory when

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Carotene & Vitamin A in Wintering Rations for Beef Calves. III. Nebraska A.E.S. Cattle Prog. Rpt. 218 (1953)

Urea, Beef Tallow & Corn Oil for Fattening Cattle. Nebraska A.E.S. Cattle Prog. Rpt. 219 (1953)

Oral Supplementation vs. Intramuscular Injection of Aureomycin to Young Calves. J. Dairy Sci. 36: 593 (1953)

1954

Response of Hormone-Injected New Hampshire Chickens to Antibiotic Supplementation. Poultry Sci. 33: 212-14 (1954)

A Simple Milk-Replacer Formula for Dairy Calves. Texas A.E.S. Prog. Rpt. 1710 (1954)

Relative Value of Carotene from Alfalfa & Vitamin A from a Dry Carrier Fed at Minimum Levels to Holstein Calves. J. Dairy Sci. 37: 889-99 (1954)

Parenteral Administration of Aureomycin to Young Calves with a Note on Mode of Action. J. Dairy Sci. 37: 488-97 (1954)

Use of Special Processed Soybean Flour & Whey Solubles in Milk Replacement Formulas for Dairy Calves. J. Dairy Sci. 37: 373-79 (1954)

1955

Effect of Protein on the Toxicity of Hexachloronaphthalene. J. Nutrition 55: 119-28 (1955)

Effect of Trace Minerals & Other Dietary Ingredients upon Vitamin A Stability in Stored Poultry Diets. Poultry Sci. 34: 355-60 (1955)

The Value of Certain Surfactants & Other Growth Stimulants in the Rations of Young Dairy Calves. J. Dairy Sci., 38: 407-15 (1955)

Vitamin A Supplementation of Range Cows. South Dakota Farm & Home Research 6: 98-103 (1955)

The Stability of Vitamin A in Mixed Feeds & Premixes. Poultry Sci. 34: 603-8 (1955)

Dairy Calf Research in Louisiana. Louisiana A.E.S. Bull. 494 (1955)

Complete Milk Replacement Proves Satisfactory for Calves. Cornell Feed Service, no. 46, p. 34, July, 1955

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(C) Continuous Ribbon Mixers of the type used for dry mixing of ingredients fed from continuous mixing lines have sometimes been used for mixing liquids. These are generally limited as liquid mixers by their relatively slow speeds and because they were not designed as liquid mixers. Balls of liquids will be found in feeds mixed in these mixers. However, high speed dressers and blenders can be used to beat out these liquid balls, and a number of continuous ribbon mixers are being used successfully in this manner, especially with the lighter liquids.

There are several other types of mixers used, including vertical molasses feed mixers, single shaft slow speed mixers, and cut-flight helacoid mixers. But these mixers are not widely used and their limitations seem to preclude their widespread use for the application of liquids.

All of the foregoing comments have pertained to continuous mixers.

I suppose that everyone in the feed industry has tried, at one time or another, to apply one or more liquids in either vertical or horizontal batch mixers. I believe that most of those who have tried it will agree that this has not generally been a satisfactory manner of applying adhesive liquids to the feeds.

There are several reasons for this: (1) Batch mixers were not designed as liquid mixers and will not do a uniform or a complete job of mixing liquids into the feeds. Balls of liquids will generally be found throughout the feed when liquids are applied in batch mixers. (2) A build-up of liquid cakes will be encountered on the ribbons and shafts and on the inside periphery of the mixing shell in many cases. This presents a real cleaning problem, plus the danger of contamination of one type of feed with another. (3) Batch mixers cannot be expected to do a satisfactory job of mixing all the dry ingredients if any liquid is introduced into the batch mixer. This, I believe, is an overriding consideration in recommending against the application of a liquid feed ingredient in a batch mixer.

In the foregoing I have tried to assemble recommendations of a specific nature which would apply to the handling of all liquid feed ingredients.

ANIMAL FATS — It seems to me that every feed mill in the U.S. has decided to apply animal fats to its feeds, and all seem determined to do it right now.

Because several aspects of the problem have been discussed in early parts of this paper, I will suggest here only some of the "do's" and "don'ts" of fat applications.

1. Don't bring animal fats into continuous contact with copper, bronze or rubber. This means you will need iron heating coils, valves, pipe and fittings, iron pumps, and also means that Neoprene grease seals, rather than rubber grease seals, will be required.

2. Don't let any moisture into your fats from any source.

3. Don't overheat fats. The stabilizers break-down when fat is overheated and fats will go rancid if overheated. It should be remembered that this includes localized overheating around steam coils as well as general overheating.

4. Do maintain fats in storage tanks at 120° to 130° F., and arrange heating coils in the storage tank to keep fat from bridging in the tank.

5. Do apply fats to your feeds at their optimum mixing temperature of 160° to 175° F.

6. Do agitate the fats, both in storage tanks and in fat conditioning feeders. Most fats contain fairly high levels of foreign materials, and agitation is necessary as much to keep these foreign materials in suspension as for moving the fats around the heating coils to avoid overheating.

7. Do heat your fat lines from storage tank to pump, to fat conditioning tank, and from conditioning tank to your mixer.

8. Do apply fats in high speed mixers if possible. Fats are not hard to mix, but beating out balls of fat, once they are formed, is about like reducing ping-pong balls to feed particle size.

9. Do arrange a blow-back system so that fats can be blown out of your lines, and do not blow fats back to the storage tank. Use compressed air, rather than steam for blow-back since we want to keep moisture out of the lines.

10. Do use only stabilized animal fats, and fats should be tested for stability before they are applied to feeds. Fairly rapid methods for testing fats in the laboratory are available, and I understand that the Active Oxygen Method is perhaps the most widely used. It is suggested that fat should have an AOM stability value of not less than 20 hours after antioxidant treatment. In general, the lowest grade of tallows used will be No. 1 tallow, and I believe that most feed manufacturers feel that all of the greases are usable in feeds, except for brown grease and house grease.

If care is used so that the above recommendations are followed, I believe it should be possible for you to arrange a reasonably satisfactory installation of animal fat storage tanks, pumps, conditioning units and mixers in most of your plants.

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PROVED ON-THE-FARM
VICTOR FEEDS

McMillen Opens New Iowa Feed Warehouse

J. W. Benning Wilbur Stange

FT. WAYNE, IND.—A sixth Master Mix feed warehouse is now operating for McMillen Feed Mills, according to an announcement by Dale W. McMillen, Jr., company president.

Complete warehousing facilities were installed at 201 Fifth Ave. S.E., in Cedar Rapids, Iowa. The company's new 14,000-sq.-ft. brick structure will house the Master Feed & Seed Co. of Cedar Rapids. A complete line of the company's feeds, concentrates, feed ingredients and McMillen farm supplies will be distributed by the warehouse throughout central Iowa.

Named to head the new operation is Joseph W. Benning, who was previously manager of McMillen's warehouse at Louisville. He has been with McMillen since 1951, serving as office manager of the Indianapolis, Ind., warehouse before being promoted to the Louisville position.

Coming with Mr. Benning as warehouse salesman will be Wilbur Stange of Oxford, Ohio. Mr. Stange has been a Master Mix representative since 1951, serving in sales or supervisory capacities at company operations in Rushville, Ind., Alliance and Oxford, Ohio, and finally at Louisville.

The warehouse was tentatively scheduled to begin operating late in March.

McCabe Co. to Build Mill at Belview, Minn.

MINNEAPOLIS—The McCabe Co. has announced plans to build a new feed mill at Belview, Minn.

The plant to be installed in the near future will include a new building, a two-ton vertical mixer and a 100 h.p. hammermill. Space will be allowed for the later addition of an attrition mill. The company presently has grain storage facilities there.

The new mill will be a duplicate of the one completed last fall at Morton, Minn.

The McCabe Co. also has several other construction projects under way. Nearly completed is a 60,000 bu. grain storage annex at the firm's elevator in Winthrop, Minn. And the company is also preparing to remodel and add warehouse space at Stewart, Minn.

BUYS FEED STORE

COLUMBUS JUNCTION, IOWA—Robert Clark, who has been associated with the Farm Service for several years, has purchased the Leland Ross Feed Store here.

Dehydrated **ALFALFA MEAL** High Carotene

From the Fertile Red River Valley of Minnesota

Write - Phone - Wire

RED RIVER ALFALFA CO.

Earl Saul Phone 61 Crookston, Minn.

"Two important factors influenced us to standardize on KELLY DUPLEX mixers"

Herman Eikenberry, Asst. Gen. Mgr. of The Mayer Grain Company elevators in Indiana, writes ...

It was about eight years ago that we purchased our first Kelly Duplex. We hadn't had it long before we realized two important facts: (1) it was very economical to keep up, (2) it would handle a load far in excess of its rated capacity. Right then, we decided it was the mixer for us.

Since then, we have bought a Kelly Duplex every time a replacement was necessary or whenever our increasing volume demanded it--until now we have enough of these machines to handle the entire mixing volume in all 5 of our elevators.

The Mayer Grain Co. operates 5 elevators in northern Indiana. Each is located in a different town and is expected to produce its share of the company's STANDARD brand feeds—as well as handle all custom mixing work in its area. As each elevator needs only 1 or 2 mixers, the problem was to find a machine that would do a good job with little or no maintenance—yet one with enough extra capacity to help out in rush seasons.

Eight years ago, Mayer purchased their first Kelly Duplex Mixer. Now, they have 8—enough to handle the entire mixing volume in all elevators.

As Mr Eikenberry states elsewhere in his letter, these machines have always done a fast, thorough mixing job—have produced a volume double that of their rated capacities when really needed—and have required only the barest maintenance (an occasional minor adjustment and then only on the 3 oldest machines).

We're sure the Kelly Duplex Mixer can handle your problems just as well. For full details, check and mail card today!

Bagging Scale

Combines bagging and weighing operations. Eliminates heavy lifting, saves time, increases capacity.

Twin Molasses Mixer

Adds molasses in just the right proportion . . . assures thorough, even mixing without balling or lumping.

6 capacities Kelly Duplex Vertical Feed Mixers are constructed entirely of arc welded steel for trouble-free service and long life. Made in 6 sizes—½ to 5 ton capacity—they're quiet and fast, require less power.

The Duplex Mill and Mfg. Company, Springfield, Ohio

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The Duplex Mill & Mfg. Co.
Springfield, Ohio

Yes, I'm interested in the KELLY DUPLEX machinery checked at the right. Please send me full information on these machines without any obligation.

- ☐ Vertical Feed Mixer
- ☐ Model "S" Hammermill
- ☐ Vertical Screw Elevator
- ☐ Corn Cutter and Grader
- ☐ Corn Sheller with Blower
- ☐ Pitless Corn Sheller
- ☐ Regular Corn Sheller
- ☐ Magnetic Separator
- ☐ Cob Crusher
- ☐ Electric Truck Hoist
- ☐ Twin Molasses Mixer
- ☐ Model "M" Hammermill
- ☐ Forced Air Carloader
- ☐ Chain Drag
- ☐ Corn Crusher-Regulator
- ☐ Grain Blower
- ☐ Corn Scalper
- ☐ Attrition Mill Blower
- ☐ Grain Feeder
- ☐ Complete Line Catalog

NAME_____

TITLE_____

FIRM_____

CITY_____ STATE_____

There Is Often a Better Way

When Joe Brooks came back from lunch, he found a sales slip on his desk, stapled to a blank sheet of white paper, about 8½ by 11 in. in size. The sales slip was made out to Mr. Farmer, Rt. 1, Hansen's Creek, showing he had bought seven bags of laying mash.

"Mr. Farmer!" Joe said puzzledly to Rusty Hagen, his runty, dark haired bookkeeper. "Who is he?"

"Oh, Milt came in about a half hour ago, got the stapler and then put this thing on your desk," Rusty said. "He didn't explain a thing to me."

"Hm," Joe said thoughtfully. He picked up the sales slip and piece of paper again and walked into the salesroom.

"Oh, Pop!" he said to the veteran, portly employee. "Do you know where Milt is?"

The old fellow, who had a standing feud with redhead-loving Milt about mentioning women during working hours, grinned happily. "I sure do," he said. "I was hopin' you'd ask me. Then I wouldn't be tattlin' out of turn. Boy, has he got a surprise comin'."

"What do you mean?" Joe asked.

"You know he didn't look so well this mornin'?" Pop said.

Joe nodded. "Yes, he was a half hour late. I meant to ask him about that."

Pop grinned some more and nodded. "Sure, he was out on a date with a red head last night, and didn't get home till near daylight. I told him it would catch up with him some time. Come on, I'll show you."

Pop Henley led Joe Brooks into the big, cold warehouse piled high with sacks of fertilizer, feed and other supplies. There were numerous aisles in the building and some were quite dark.

Pop halted for a minute. "You know I don't like to squeal on anybody, Joe," he said, "but Milt has been pesterin' me so much about the few dates I've had with widows around here that I'm gettin' sick and tired of it. I gotta strike back and make an end to this monkey business."

"I know you fellows have a few arguments once in a while," Joe said, "but I hope it stops."

Pop walked a little farther down an aisle, then beckoned with a finger. "Hear anythin'?" he said softly, his eyes twinkling.

Sound of Snoring Heard

Joe listened. "Sounds like someone snoring. Who is it?"

"Just peek around the corner," Pop purred. "You'll see a mighty purty sight."

Joe looked around the corner. Curled comfortably atop a double row of feed sacks about 4 ft. high, some empty fertilizer sacks for a pillow, lay Milt Peters. His snore was deep, measured and contented.

"He does that!" Pop said slowly.

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COMPLETE RANGE of Multiwalls, custom-made to satisfy the most exacting needs of every "bagable" product.

All types of paper from Albemarle's great mills, including asphalt laminated, creped, wet-strength, colored kraft and other specialties.

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Place your next order with us. Call K.C. Baltimore 5115—Omaha Harney 4806.
BATES Grain Co.
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W. H. Liebetrau

APPOINTED—Arkell & Smiths has named William H. Liebetrau to supervise direct sales activities in the southern division territory formerly handled by Bill Wellings, who, for reasons of health, has been transferred to the Wellsburg, Va., plant, where he will be office manager. Mr. Liebetrau is a graduate of the University of Colorado and a Korean war veteran. He was previously associated with Bauer & Black, selling industrial tapes in the Southeast. His home is in Atlanta, Ga.

"on your time. I feel like a heel, but he had it coming to him."

"Does he do this very often?" Joe asked sternly.

"I'm not sayin'," Pop answered. "You'll have to ask him. Wait a minute."

Pop picked up a small paper bag from the floor, gripped the neck and blew into it. The bag filled slowly with air. When it looked like a balloon, Pop sneaked close to Milt and banged the bottom of the bag with his hand.

There was a noise like a giant firecracker, as the bag split wide open. Milt sat up quickly and began waving his arms wildly and shaking his head. Joe was looking sternly at Milt, and Pop was laughing so much he held onto some nearby feed sacks for support.

"So this is what you do for $1.90 an hour!" Joe accused. "Is that what you figure is a good day's work for a good day's pay?"

"Joe, I can explain everything!" Milt said slowly, brushing back his tousled brown hair. "I—."

"I've already had an explanation from Pop," Joe interrupted. "Milt, I never thought you'd do a thing like this."

Milt Has Alibi

"W— well, I was tired," Milt burst forth, "and I thought I'd— I'd take a little snooze after lunch until 1 o'clock. I— I guess I must have overslept."

"I guess you did!" Joe said severely "It's almost 2:45 p.m. now. "I guess you don't get enough sleep nights, Milt. I don't want my employees to come to work tired every day."

"I don't, Joe, I don't. I'm rested lots of mornings. Only— only once in a while— well, don't you and Pop remember when you were young? Didn't you stay out late once in a while?"

"Sure," Pop said sharply. "Once a month, maybe. Not every night in the week like you, though."

"Well, to tell the truth, Joe," Milt said slowly. "I— I stayed up an hour later last night when I got back from my date, figuring up a business idea for you. I just couldn't go to sleep—thinking about her, so I got my mind off her by thinking of your business."

"A second hand idea, I'll bet," Pop said sarcastically.

Joe held up his hand for silence. "Is this the idea, Milt?" he asked. He held up the sales slip and the piece of white paper stapled to it.

Pop looked at the paper. "Huh, bet some kindergarten kid's been playin' with the stapler. Kinda foolish stuff."

"It's not foolish," Milt protested, now quite wide awake. He dug into his khaki pants and pulled out a crumpled sheet of paper. "I— I got

the Feeler

Like Midas and his gold, the Feeler loves the touch of feed pouring through his fingers. And it tells him so much about nutrition. If feed didn't *feel* right he wouldn't give it to his animals.

But even the Feeler goes for Archer Booster Feed. He knows that Archer is better by any standard . . . even feeling. The Feeler becomes a *buyer* in the store that sells Archer Booster Feeds.

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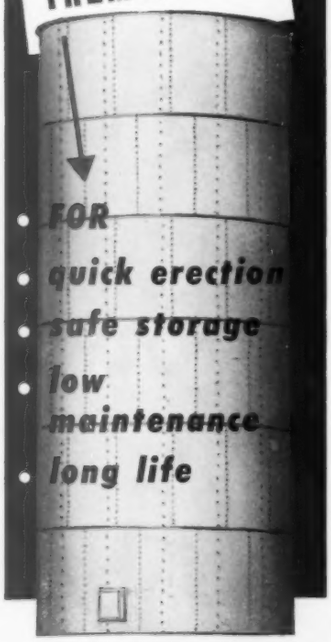

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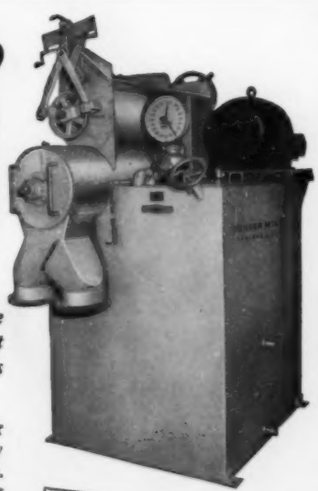

Sales, and profits too, were still going up for this Missouri miller (name on request) and he anticipated a 50% increase in 90 days. Here is just one of the many feed mills and custom millers reporting extra good profits from their own low cost, Wenger-mixed molasses feeds.

Pictured here is the Wenger Series 700 Molasses Mixer with Hopper Bin Feeder for feeding from overhead hopper. This complete package unit model is ideal where overhead bins are practical. This mixer is also available with inclined auger feeders . . . either swivel or stationary. Whatever your needs, you'll find the Wenger Molasses Mixers best in every way: low in cost, easily installed, using minimum floor space, simple operation and quality product with trouble-free performance. Handles 1% to 50% molasses without balling or clogging. Capacity range of 40 to 200 cwt. per hour. Built-in features are Wenger's high speed mixing cylinder, adjustable feeder and the famous Wenger proportioning pump —a complete package unit—your guarantee for quality molasses feeds.

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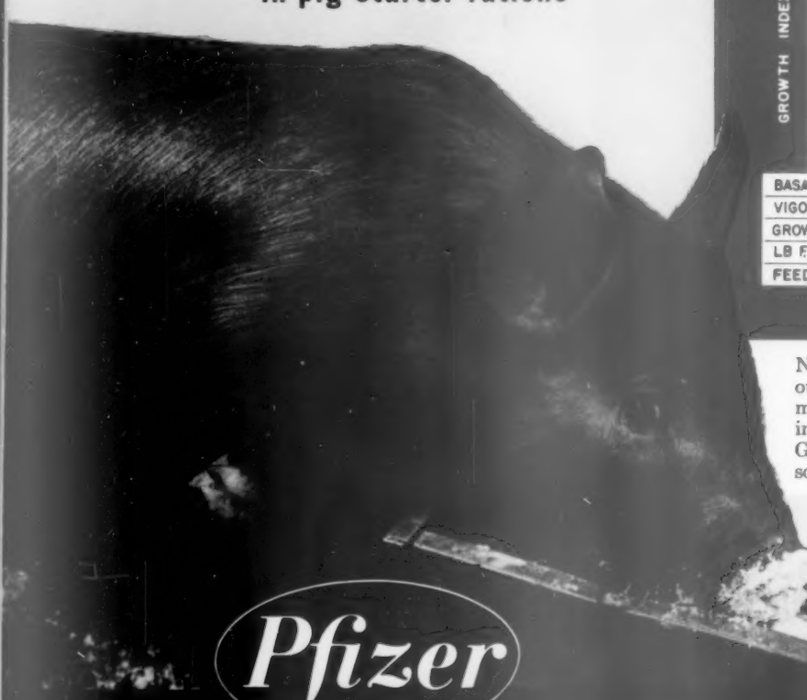
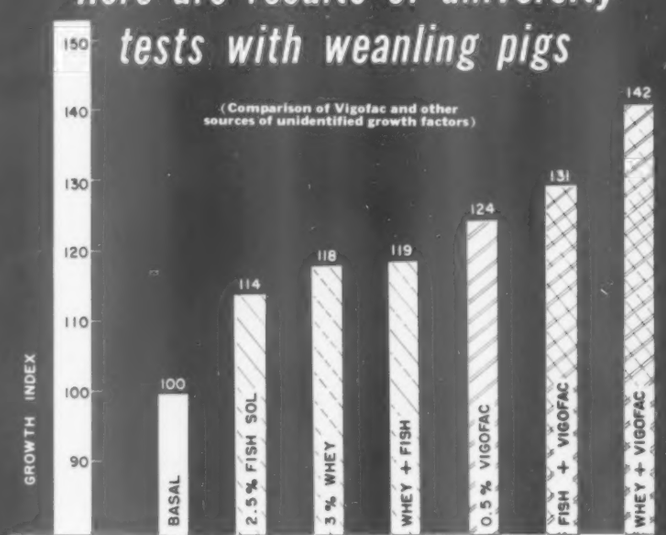


Here are results of university tests with weanling pigs

(Comparison of Vigofac and other sources of unidentified growth factors)



BASAL	VEG.	A.P.	A.P.	A.P.	VEG.	A.P.	A.P.
VIGOFAC %					0.5	0.5	0.5
GROWTH INDEX	100	114	118	119	124	131	142
LB F / LB GAIN	2.25	2.25	2.31	2.20	2.17	2.24	2.10
FEED CONV. IND.	100	100	97	102	104	100	107

Note that Vigofac not only gives a greater growth response than other sources of Unidentified Growth Factors when used to supplement an all-vegetable ration, but gives *still greater* results when used in a ration already containing animal protein sources of Unidentified Growth Factors. Thus Vigofac can save on use of expensive U.G.F. sources and reduce ration cost.

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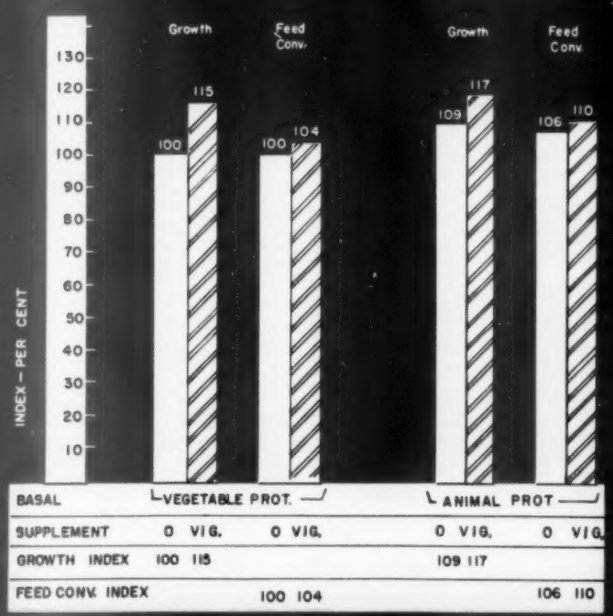
...and for growing and fattening swine

(avg. of 5 trials from university data and Pfizer Agricultural Research Center)



	VEGETABLE PROT.		ANIMAL PROT	
SUPPLEMENT	0 VIG.	0 VIG.	0 VIG.	0 VIG.
GROWTH INDEX	100 115		109 117	
FEED CONV. INDEX		100 104		106 110

Addition of Vigofac to a nutritionally balanced corn-soy ration enhanced growth to a greater degree than a ration containing optimum levels (9%) of animal protein. When added to a ration already containing animal protein, Vigofac stimulated rate of gain still further. Feed efficiency was increased by both Vigofac and the animal protein. Increase was greatest when Vigofac was added to ration containing animal protein.

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saves another week or more to market

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this out of your wastebasket, Joe, and it set me thinking."

"What is it?" asked Pop suspiciously.

"It was sent out by the Lincoln Electric Co., Cleveland," Milt said eagerly. "They specialize in time saving ideas. This copy says, 'When history proves that all progress starts with change—how can anyone be content to do things as in past years? Yet many do so. Why not question the reason for doing everything you do today to see if there is a better way?'"

"I remember that card," Joe said. "I thought about it a lot, then I threw it away. Figured I'd remember the copy."

"Joe," burst forth Pop angrily, "don't let him talk his way out of this. What has that copy got to do with his stapling that white sheet of paper to a phony sales slip?"

Milt sighed patiently. "Well, I got to thinking about that copy, and then I figured we were wasting some good sales opportunities by not making the most of suggested sales ideas when we give a farmer a duplicate sales ticket on his purchase."

"How?" Joe asked.

Milt's Plan

Milt coughed. "Suppose, for example, we had a lot of sheets mimeographed on our poultry feed and how to feed it more economically for better results. Then as a farmer bought poultry feed and waited for his duplicate sales ticket, the clerk making it out could just attach one of these feeding instruction sheets to the sales slip by a staple. The farmer would fold it with his ticket, stick it in his pocket. At home, when he filed the ticket away he'd sit down and read the attached mimeographed sheet. It would make him think twice about whether he was using that feed right."

Joe looked impressed. "Not a bad idea, Milt!"

"We could have other sheets mimeographed on dairy and hog feeds and attach them to sales slips of farmers who purchase those feeds. Might use it on fertilizer, too."

"And I threw that copy away, Milt," smiled Joe. "Well, don't sleep on feed sacks any more, but at the same time don't forget to keep coming up with ideas like this either. We can use them."

Pop Henley looked absolutely pained. "Well, what do you know about that? I'm going to start sleeping during noon hour, too. But I'll bring an alarm clock along and set it, so I get up on time. Maybe I can learn something new, too."

RESIGNS SALES JOB

JEFFERSON, IOWA — Dwight Parkinson, district feed salesman for the Ralston Purina Co., has resigned to become manager of the feed division of the Farmers Elevator-Mill at Denison.

CONCEPTS CHANGING ON FATTENING ANIMALS

WASHINGTON—Modern livestock breeding and feeding programs and new concepts of meat cookery now enable consumers to have tender and flavorful meat on their tables without the necessity of having animals fattened to the point formerly considered necessary. This was brought out by the U.S. Department of Agriculture's Food Distribution and Marketing Advisory Committee in a recent report which emphasized the importance of research on meat fatness.

Worm Parasites in Calves Studied

LEXINGTON, KY.—Because an increase in stomach worm disease of calves has been noticed in recent years by the University of Kentucky department of animal pathology, investigations have been undertaken to appraise the role worms play as a factor in Kentucky cattle production. The study was reported by Dr. J. H. Drudge of the department in an issue of the Kentucky Farm & Home Science.

During the 1954 grazing season, a study was conducted on the worm parasites in a group of dairy calves. The herd history indicated that worms were present, but the infections were generally light and no death losses had been experienced.

Two groups of calves, treated and control, were utilized in the study for a simultaneous measurement of the adverse effects of the worms on the calves and the effectiveness of the treatment to control the worms.

Medication of the treated group consisted of adding small amounts of phenothiazine to the daily grain ration. Gains in body weight were used as an index of the health and well-being of the animals.

The level of parasitism in both groups was followed through the grazing season by periodic examinations of the feces for worm eggs and larvae. In addition, the amount of larval infestation on the pasture, both from over-winter survival and the build-up during the grazing season, was estimated. This was done by determining the number of worms acquired by worm-free calves which were allowed to graze for short periods of time at appropriate intervals with each of the test groups.

A summary of the observations for the year shows that treated animals acquired only one third to one half as many worms as the untreated or control group, Dr. Drudge reported. In addition, the treated animals made consistently greater weight gains which indicated beneficial action from medication in the treated group, he said.

Although these results are not conclusive, surprisingly high levels of worm infection were found, he stated. More data on this problem are being accumulated by repeating the study during the present season.

Dr. Drudge said the study is considered important because of the economic loss—from death losses, unthriftiness, stunting and inefficient feed utilization—which results from worm infection.

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FASTEST AND CLEANEST FEED DELIVERY	√
SUBSTITUTES MOTOR POWER FOR EXPENSIVE MAN POWER	√
CUTS LOSSES FROM SACK DAMAGE, PESTS, RODENTS	√
DELIVERS DAIRY AND POULTRY FEEDS ON SAME TRIP	√
FEEDS STAY FRESHER MORE PALATABLE	√
INCREASES MILL CAPACITY AND PROFITS	√
ATTRACTS AND HOLDS PROFITABLE NEW BUSINESS	√
TANK TOP DELIVERY TO HEIGHTS UP TO 18 FT.	√
ELIMINATES SACK PILING, STORAGE AND SEWING	√
UP TO 1000 LBS. LIGHTER IN WEIGHT	√
SELF-CLEANING PADDLES PROVIDE FASTEST CLEANOUT	√

Tank Top

DELIVERY INTO STORAGE AS HIGH AS 18 FEET

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HAVE UNIQUE PADDLE SYSTEMS FOR SPEED WITHOUT PACKING

Of the score or more profit-making features of the Goldsberry bulk delivery systems of poultry and dairy feeds, the one with the biggest appeal is its top-tank discharge. The "stinger" or discharge member is easiest to manage by the driver, delivers to bins or other storage as high as 18 feet. As for speed, Goldsberry will discharge feed at rates up to a ton in 90 seconds! To the advantage of tank-top delivery and fastest cleanout add the plus of light weight. An aluminum Goldsberry bulk feed delivery unit weighs up to 1000 pounds less. Operating costs pay for payload, not for dead weight. Let us show you how to *go with Goldsberry*, on the profit road to faster delivery of both dairy and poultry feeds. A new descriptive bulletin brings you the complete sales-winning, money making story. Just mail the coupon for your free copy.

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LEXINGTON, NEBR.

CONVENTION CALENDAR

April 3—Purdue Egg Day; Lafayette, Ind.; chmn., David D. Jackson, Ind. Agricultural Extension Service, Lafayette, Ind.

April 5—Texas Feed Manufacturers; Hotel Texas, Ft. Worth; sec., Monroe U. May, P.O. Box 6666, Dallas 19, Texas.

April 6-7 — Texas Grain & Feed Dealers Assn.; Hotel Texas, Ft. Worth; sec., Ben Ferguson, 614 Meacham Bldg., Ft. Worth 2, Texas.

April 9-11—American Assn. of Feed Microscopists; Deming Hotel, Terre Haute, Ind.; chmn., Robert C. Wornick, Chas. Pfizer & Co., Terre Haute, Ind.

April 10-12—Council for Agricultural and Chemurgic Research; Congress Hotel, Chicago; chmn., John W. Ticknor, Council for Agricultural and Chemurgic Research, 350 Fifth Ave., New York 1, N.Y.

April 12-14—California Hay, Grain & Feed Dealers Assn.; Ambassador Hotel, Los Angeles; chmn., Jack Flammer, 5935 So. Malt Ave., Los Angeles 22, Cal.

April 12-18—National Fisheries Institute; 4-Most Hotels, Miami Beach, Fla.; mgr., Max Xavier, 1614 20th St., N.W., Washington 9, D.C.

April 16-17 — Nebraska Grain & Feed Dealers Assn.; Hotel Cornhusker, Lincoln; sec., Howard W. Elm, 917 Trust Bldg., Lincoln, Neb.

April 19—Illinois Feed and Nutrition Conference; Univ. of Illinois, Urbana; chmn., Dr. John H. Byers, Dairy Science Dept., Univ. of Ill., Urbana, Ill.

April 27 — Purdue Cattle Feeders' Day; Lafayette, Ind.; chmn., W. M. Beeson, Dept. of Animal Husbandry, Purdue University, Lafayette, Ind.

May 3-5 — Kansas Grain & Feed Dealers Assn.; Kansan Hotel, Topeka; sec., O. E. Case, 901 Wiley Bldg., Hutchinson, Kansas.

May 13-14—Missouri Grain, Feed & Seed Assn.; Kentwood Arms Hotel, Springfield; sec., D. A. Meinershagen, Higginsville, Mo.

May 21-22 — National Cottonseed Products Assn.; Statler-Hilton Hotel, Dallas; sec., John F. Moloney, 19 S. Cleveland St., Memphis, Tenn.

May 23-25—American Feed Manufacturers Assn.; Morrison Hotel, Chicago; sec., W. T. Diamond, 53 West Jackson Blvd., Chicago 4, Ill.

June 4-5 — Eastern Federation of Feed Merchants; Hotel Commodore, New York; sec., Howard J. Benson, Eastern Federation of Feed Merchants, Sherburne, N.Y.

June 4-5 — Central Retail Feed Assn.; Schroeder Hotel, Milwaukee; sec., Eldon H. Roesler, 1712 West St. Paul Ave., Milwaukee 3, Wis.

June 4-5—Georgia Feed & Poultry Conference; Dinkler Plaza Hotel, Atlanta; sec., Will L. Kinard, 208 William-Oliver Bldg., Atlanta 3, Ga.

June 6-9 — Grain Processing Machinery Manufacturers Assn.; French Lick Springs Sheraton, French Lick, Ind.; sec., Raymond J. Walter, 511 Fifth Ave., New York 17, N.Y.

June 7-10 — Canadian Feed Mfrs. Assn.; Sheraton Brock Hotel, Niagara Falls, Ont.; reg., Herbert Hickling, Wm. Stone Sons, Ltd., Ingersoll, Ont.

June 11-12 — Montana Nutrition Conference; Montana State College, Bozeman; chmn., O. O. Thomas, Montana State College Agricultural Experiment Station, Bozeman, Mont.

June 12-14—Alabama Poultry Industry Assn.; Thomas Jefferson Hotel, Birmingham, Ala.; sec., W. L. Walsh, P.O. Box 567, Montgomery, Ala.

June 13—Pacific Northwest Grain Dealers Assn.; Davenport Hotel, Spokane, Wash.; sec., Pete Stallcop, 418 Peyton Bldg., Spokane, Wash.

June 17-19—Indiana Grain & Feed

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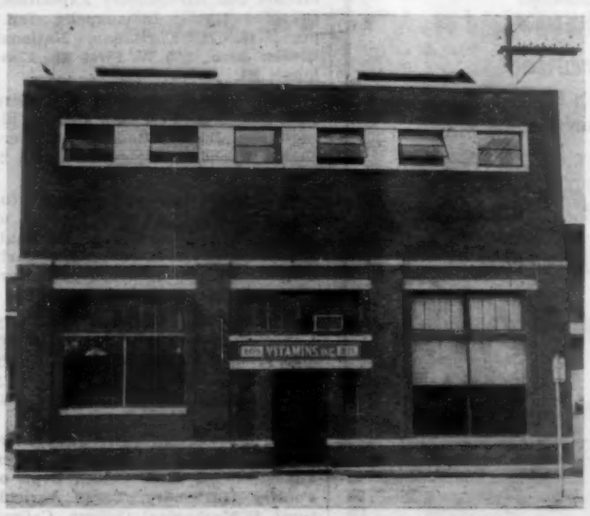

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June 17-19—Louisiana Poultry Improvement Assn.; St. Charles Hotel, New Orleans; chmn., Clyde Ingram, Louisiana Extension Service, University Station, Baton Rouge, La.

June 18-21—American Dairy Science Assn.; Univ. of Conn., Storrs; chmn., W. R. Hesseltine, Univ. of Conn., Storrs, Conn.

June 20-22—Delmarva Chicken Festival; Ocean City, Md.; sec., J. Frank Gordy, Delmarva Poultry Industry, Inc., Selbyville, Del.

June 28-30—Association of Southern Feed & Fertilizer Control Officials; Hotel Roanoke, Roanoke, Va.; sec., Bruce Poundstone, U. of Ky. Agricultural Experiment Station, Lexington 29, Ky.

July 17-20 — American Poultry & Hatchery Federation; Minneapolis Civic Auditorium, Minneapolis, Minn.; mgr., Ed G. Gray, 521 East 63rd St., Kansas City 10, Mo.

Aug. 7-10—Poultry Science Assn.; No. Carolina State College, Raleigh; sec., C. B. Ryan, College Station, Texas.

Aug. 10-11 — North Carolina Feed Mfrs. Assn.; Fort Sumter Hotel, Charleston, S.C.; sec., Louis Maxwell, Box 897, Goldsboro, N.C.

Aug. 13-15—American Soybean Assn. and National Soybean Processors Assn. joint conventions; University of Illinois, Urbana; R. G. Houghtlin, pres., NSPA, 3818 Board of Trade Bldg., Chicago 4, Ill.; George M. Strayer, exec. vice pres., ASA, Hudson, Iowa.

Aug. 13-14 — Wisconsin Nutrition School for Feed Men; U. of Wis., Madison; chmn., Gus Bohstedt, Dept. of Animal Husbandry, U. of Wis. College of Agriculture, Madison, Wis.

Aug. 20-21 — Kentucky Feed & Grain Assn.; Seelbach Hotel, Louisville; sec., W. C. Willock, P.O. Box 1914, Louisville, Ky.

Aug. 27-29—National Broiler Convention and All-Industry Exposition; Claypool Hotel, Indianapolis, Ind.; pres., H. H. Earthman, National Broiler Assn., 155 W. First St., Elmhurst, Ill.

Sept. 9-11—Grain & Feed Dealers National Assn.; Morrison Hotel, Chicago; sec., John C. Bowden, 100 Merchants Exchange Bldg., St. Louis 2, Mo.

Sept. 10-11—Minnesota Animal Nutrition Short Course; University of Minnesota, St. Paul Campus, St. Paul; chmn., Dr. Elton L. Johnson, Department of Poultry Husbandry, University of Minnesota.

Sept. 26-27 — Michigan Hatchery Conference; Michigan State University, East Lansing, Mich.; sec., Harry Hathaway, Michigan State Poultry Improvement Assn., East Lansing, Mich.

Oct. 4-5—Texas Nutrition Conference; Texas A&M, College Station, Texas; chmn., J. R. Couch, Dept. of Poultry Husbandry, Texas Agricultural & Mechanical College, College Station, Texas.

Oct. 15-16 — California Animal Industry Conference; Fresno Memorial Auditorium, Fresno; sec., John Gilmore, 1400 10th St., Sacramento 14, Cal.

Oct. 17-18—Assn. of American Feed Control Officials; Shoreham Hotel, Washington, D.C.; sec., L. E. Bopst, U. of Md., College Park, Md.

Dec. 3-4—Farmers Elevator Assn. of South Dakota; Huron, S.D.; sec., C. C. Anderson, 423 Citizens Bldg., Aberdeen, S.D.

1957

Jan. 28-30—Southeastern Poultry & Egg Assn.; Dinkler-Plaza Hotel, Atlanta; exec. sec., J. Paul Williams, 615 E. Franklin St., Richmond 19, Va.

Feb. 4-6—Assn. of Southern Agricultural Workers, Birmingham, Ala.

Feb. 10-12—Wyoming Grain, Feed & Seed Dealers Assn.; Casper; sec., Everett L. Berry, P.O. Box 118, Sheridan, Wyo.

Feb. 15-17—Institute of American Poultry Industries Fact Finding Conference; Municipal Auditorium, Kansas City, Mo.; pres., Cliff D. Carpenter, 221 North LaSalle St., Chicago 1, Ill.

1958 Turkey Meeting To Be in St. Louis

MOUNT MORRIS, ILL.—The 1958 convention of the National Turkey Federation will be held during the week of Jan. 5-11 in St. Louis, according to M. C. Small, executive secretary of the organization. The exact dates will probably be Jan. 7-9.

The 1957 convention had been scheduled for Jan. 8-10 in Cleveland, Ohio, but the location is still uncertain because of a possible conflict in the use of the Cleveland Auditorium.

Plans Set for Broiler Convention, Exposition

ELMHURST, ILL.—Arrangements have been completed to hold the third National Broiler Convention and All-Industry Exposition at the Claypool Hotel, Indianapolis, Ind., Aug. 27-29, H. H. Earthman, president of the National Broiler Assn., has announced.

This will be the first convention with exhibits ever staged exclusively for the broiler industry. Information regarding exhibit space will be available in the near future.

Indianapolis is an ideal location for the convention, because it is centrally located and easily accessible to all major broiler areas by all means of transportation, Mr. Earthman said. The Claypool Hotel has facilities to accommodate the broiler industry and it is completely air conditioned. Exhibits and all other convention activities will be under one roof.

Commenting on the convention, Mr. Earthman said: "This will be the biggest and most important meeting ever held exclusively for the broiler industry. It will be 'all broiler,' and no person who has any connection with the broiler industry can afford to miss it."

Lt. Gov. Harold W. Handley of Indiana, prominent in agricultural affairs, has been invited to address the opening session.

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TRENDS IN FEED CONTROL

Problems, Needs and Possible Future Developments

By John Monaghan

EDITOR'S NOTE: At the recent Midwest Feed Manufacturers Assn. convention, John Monaghan, Kansas feed control director, told of progress in feed control work and of some of the problems and possible future trends. He described the development of more uniform laws and regulations, better sampling and analysis, and simpler registration and tax payment. In addition, as may be seen in the accompanying article, Mr. Monaghan told of some of the problems and needs in connection with today's more complex feeds and the guarantees, labeling and regulation of such feeds. Also, it may be noted, he said that "perhaps minimum standards will be established which every feed of specific designation will have to meet." This article is an excerpt from Mr. Monaghan's talk.

The inclusion of the many additives available to the present-day manufacturers makes it mandatory that almost perfect distribution of ingredients be maintained, especially in view of the small amounts of drugs required for a particular batch and the small per cent guaranteed as the active ingredient.

The verification of such guarantees is often times a good index of the efficiency of mixing a formulator strives for. The control official must insist on thorough mixing when he considers that the tonnage of one to five-sack purchases of formula feeds constitutes a fairly large slice of the total production.

Are not these people who purchase small lots entitled to protection of the proper level of coccidiostat, anthelmintic, and other additives, as well as the nutritional components, as the large feeder who is content with composite levels? We feel the manufacturers' responsibility for uniform distribution of ingredients increases in proportion to the complexity of the mixture.

Labeling

Labeling as a means of product identification has undergone quite a face lifting during the past decade. With the appearance of vitamins, antibiotics, drugs and preservatives on the nutritional scene, a great diversity of opinion has developed as to labeling formats and continuity. Manufacturers have sometimes objected to the subordination of their copyrighted names in using the approved designs. The officials of the Food and Drug Administration have indicated the type of labeling to be used in certain instances whereby the emphasis is placed on the drug. Their interpretation is based on legal provisions, and apparently no changes can be expected until amendments to the pertinent statute are effected.

In the meantime, we should like to urge you manufacturers who ship in interstate commerce to refrain from seeking acceptance of nonconforming labels with individual control officials. Even though the labeling may be in conformity with a particular state law, the control official is placed in the awkward position of being an accessory to the federal violation.

The control official attempts to confine the labeling to product identification and information required by law. In this connection, much effort is ex-

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"Blusalt" adds value to any farm ration. It should be fed to livestock *both* free choice and added to home and custom-mixed feeds at the same level that you would use plain salt. There's no surer way to protect against deficiencies that may undermine animal health and production. The trace minerals in every bag of "Blusalt" are stabilized to assure full strength . . . in amounts determined by leading animal nutritionists.

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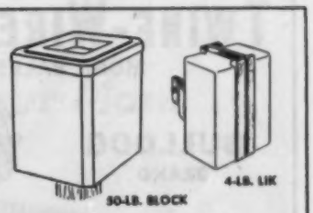

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pended in procuring the correct designation. We appeal to the manufacturers to obtain copies of the current manual of the Association of American Feed Control Officials and to use the terms accepted as proper therein for ingredients. Many controversies and needless expense will thereby be avoided.

We regret that many of the additives being used at present are identified only by long chemical names. We hope for the day when shorter, more concise, names will be permitted. The purchaser and manufacturer both will benefit. But, until then, there is no recourse but to use the chemical designation. The federal law and most of the present state laws require the use of the common or usual name. The members of industry and control officials who make up the uniform feed bill committee will continue to examine this concept and may advance some suggestions in the future which will ease this problem. The complex and alphabet-consuming terms now used may be combined into shorter nomenclature as a possible answer.

How can the harried control official expect to keep abreast with the many and growing requirements the future will demand?

Further Complication

The increased trend toward specialization in industry will doubtless complicate further the labeling of the manufacturer's production. In addition to naming the kind, the age, the size of the animal for which product is intended, the specific purpose will have to be made known. The selection of a satisfactory name for such specialized feed will certainly tax the resourcefulness of the label designer. Feeds built for producing an animal or bird of the specifications demanded by the consumers, those which will affect certain structures of the body, and those used to protect against pests and disease will have to be summarized in the name.

The control official may have to decide if the components of such products are the recognized factors to accomplish represented purposes.

Minimum Standards?

The National Research Council has made great strides in affording data by which nutritionists can build feeds to accomplish desired results. Eventually, known specifications may be available for every type of feed. Perhaps minimum standards will be established which every feed of specific designation will have to meet. In the future, then, the only labeling required may be the name and purposes of a product.

Thus it will be implied that the product contains all the components necessary for obtaining the minimum recognized standards. If a product is offered for sale under such representations and does not, in fact, contain the essentially recognized components, it is logical to conclude its performance will be inferior, and the feed may be judged mislabeled and violative. The control official will have to make certain the implied quality of all such products is maintained.

Those states which have registration requirements will need to review all such labels to make sure of adequate representations. These duties, coupled with responsibility of making analysis, stagger the imagination of one envisioning the personnel and equipment necessary for the control facilities of the future. Certainly a higher trained staff of chemists and nutritionists will be necessary. Chemical and microscopic tests will have to be augmented by biological assays. Feeding tests will doubtless have to be employed. In the face of demands for greater state economies, the control official attempting to cope with increasing technological and fiscal problems certainly should have the sympathy and understanding of all manufacturers.

This year, many states are celebrating the golden anniversary of feed control. From the mists of the early years has emerged a modern service to manufacturers and consumers which needs make apology to none. We look forward to the future with great confidence. The problems are many, the path strewed with obstructions, but, secure in the knowledge that we proceed with the help and understanding of the feed industry, we shall keep pace with progress.

General Mills Elevator At Duluth Wins Honor

MINNEAPOLIS — The Award of Honor, highest recognition given by the National Safety Council, has been awarded to the Duluth terminal elevator of General Mills, Inc.

The Duluth elevator won the honor for setting a world record for grain terminal elevators in number of injury-free man-hours. The new record is 533,213 man-hours, which represents more than eight years of continuous accident-free operation. The mark was established from Sept. 25, 1947, through Dec. 31, 1955.

The old record of 471,627 man-hours was held by Van Dusen Harrington Co.

Victor E. Anderson, manager of the Duluth elevator operation, received the National Safety Council plaque in recognition of the honor, from G. S. Kennedy, vice president and administrator of flour and feed activities for General Mills.

A COUPLE OF DANDY "DANDIES"

Miss Carol Canora, Regional Vice-President of the Parents Club, is shown here with two of her favorite "Dandie Dinmont Terriers." She has been raising and training this breed for more than 8 years and now has 10 dogs in her Ceolaire Kennels at Hartford, Conn.

Miss Canora says, "My experience in feeding Vitality Professional and Body Builder dog food has taught me that it does an outstanding job of raising strong, healthy puppies with plenty of bone and substance. It keeps them in top shape for showing at all times and eliminates many of the headaches formerly encountered with other brands."

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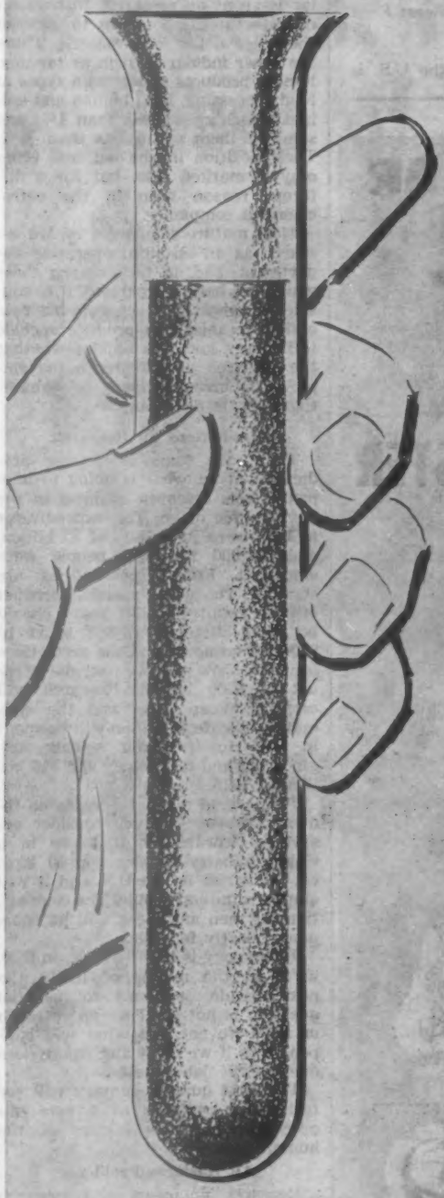

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Phosphorus, Total	17.0% min.	14.5% min.
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- **Emphasis on marketing problems and research.**
- **Use of engineering techniques in management.**

By Dr. Charles N. Kimball
President, Midwest Research Institute

EDITOR'S NOTE: The accompanying article holds a good deal of food for thought, and possible action, by the feed industry. The author notes the tremendous and continuing increases and advances in research and technology. At the same time, he focuses attention on the fact that marketing problems and market research will become increasingly important. In this connection, Dr. Kimball points to one of the results of a survey with which the Midwest Research Institute in Kansas City helped the Midwest Feed Manufacturers Assn. The survey showed that, of a number of major problems facing the feed industry, all but one dealt with sales and marketing. Dr. Kimball is president of the Midwest Research Institute in Kansas City, and this article is a condensation of a talk which he made before the recent convention of the Midwest Feed Manufacturers Assn.

Research nationally in the U.S. is increased now by a factor of 50 times in the last 20 years, due principally to the dependence of our entire economy on science and to the outstanding accomplishments of research people which are so obvious in thousands of new products and new processes. There are many economists who say that research is the most important single factor in our present national standard of living.

Many companies claim that the discontinuance of their research effort would seriously cripple their business, and there are predictions by other companies that half of the products that they will be selling in 1975 have yet to be developed by themselves or anybody else.

The economic influence of research on other industries is very marked. Take the petro-chemical industry, for example. About 6% of the sales dollar is spent on research. Instrument manufacturers spend up to 12% of the sales dollar on research. There are other industries such as tanning, lumber products and certain types of food processing, both human and animal, which spend less than 1%, and some of them spend less than ¼%. Their position in the national economy is marked also, but for a different reason than in the petro-chemical companies.

Most mature companies regard research as an essential operating department, and, in fact, among those which are better organized, it is considered almost as a separate business entity organized to produce specific technology and this applies whether the research people are in the employ of a given company or whether the work is done outside.

Predictions on Research

There are some interesting predictions about what is going to happen in this research business in the next decade or so. The expenditures in 1955 were just short of $5 billion, and 400,000 technical people were employed. Future possibilities are striking. The gross national product of this country in 10 years should be $600 billion—it's just short of $400 billion now—and the predictions for 1975 show a gross national product of $800 billion. Research will certainly keep pace, and the estimates indicate $8 billion will be spent in 1965 for research, science, engineering and technology and $16 billion by 1975.

That would make the research industry as such—if you consider everybody working in it to be in a single industry—among the 20 largest industries in the U.S. and it will employ a million people. The competition for men and ideas will be enormous, mostly for ideas.

Technology is here to stay; in fact, we're in the middle of it. In the next decade, it seems to me, the question is not shall we do research or shall we not, but what will happen to us if we don't and where does one get the job done best?

The next quarter century will see technology progress at a rate unprecedented in the history of the human race.

All Business Problems

Research engineers and research chemists won't be confined to laboratory sciences. In fact, they are not so confined today, but they will play an increasingly important role in the solution of business problems. You have heard of the term "operations research." Among sophisticated groups this is having a tremendous impact on management decisions, and the knowledge that these people have of the applications of computers, and certain electronic devices will have great utility in planning production and the forecasting and controlling of inventories, for example.

These technical people, in the future, will have access to many new tools that we only envision today. For example, the impact of revolutionary type computers will permit solutions of problems which would not be attempted at all today because of the enormity of the work

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National has i... products to cor... feed ... ...er ... T... ...up ...'e... ...ad ...ov... ...ed, highe... ehydrated meal. ...this new Hi-N ... ...n gratifying, ...s, permit... ...portan... ...nal Alfalfa's 65 dehydrating drums operating in twelve states insure adequate tonnage of high quality meal.

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Researchers, nutritionists, and educators have long regarded dehydrated alfalfa as an important basic ingredient. They also feel an important step has been taken toward upgrading this nutritious product. By reducing the fibre in National's new Hi-N product, more energy can be used to replace this reduction.

High energy, high efficiency feeds placed new demands on the dehydrating industry. National met this higher quality requirement by developing Hi-N. (18% protein, 125,000 "A", 23% maximum fibre.)

Carotene and xanthophyll are found in direct proportion in dehydrated alfalfa. (Supporting figures on request). Hi-N has more carotene (125,000) I.U.'s/Vitamin A per pound, hence, more xanthophyll.

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More Xanthophyll...More Pigmentation!

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involved. Consequently, the basic design of structures and machines and vehicles will be much more precise. I think the important point here is not what is going on but the increasing rate at which these things are taking place.

There are more than 300,000 plants which can be grown in captivity; that is to say, under controlled conditions. Certainly some of these might produce crops which would revolutionize the world's food and raw material sources. Only 2% of these 300,000 plants are now cultivated as crops by farmers. Most of the others we don't know very much about, but of the 2% that are planted as farm crops, only two have been investigated to any appreciable degree by scientists. These are soybeans and corn. And hundreds of food and industrial substances, if not thousands, are derived from these two basic crops because of these intense studies.

The chemical industry today manufactures for sale about 7,000 chemical products. That seems like a lot, but there are known and documented in the scientific literature 750,000 different organic chemicals, and we are discovering 12,000 new ones each year. We have not found markets for over 99% of the organic chemicals that we know about. Certainly a major project should be undertaken on a national basis so that research men could know all of the significant data about these compounds.

There is a trend upon us today that many people describe loosely as automation. It will have a real impact in almost every business. Automation is described in some quarters as the development of machines that control machines, and in other respects, in other industries, it has different definitions.

There are those who feel that elimination of the worker is the prime concern of automation, and I think they're missing the point. You are interested in cutting unit costs and raising quality, but if investigation shows you that human labor can do the job better by hand and cheaper than machinery you are able to devise or purchase, then this machinery is purely of academic interest and of little practical value.

I want to give you an example of automation. There is one plant that makes light bulbs and it produces 1.2 billion of these a year with 230 people with highly automated equipment. If they were using 1927 methods, it would take 75,000 men to produce the same number of light bulbs.

Peter Drucker is a very famous economist, head of the School of Economics at New York University. He made an observation recently that I would like to have you consider as a sub-theme of this discussion.

He said, "Automation means, above all, an entirely new way to manage a business."

The reason for this is very simple. Automation will shift the focus of business risk, and whatever it means, it will certainly mean one thing—that production will have to be kept fairly stable at a predictable rate for a fairly long time. Automation will always mean that there is a minimum rate of capacity below which the plant can't operate at all. This means then that business can no longer adjust to economic fluctuations the way it has always adjusted to them, mainly by changing the rate of production.

Marketing Problem

The risk of business had to be taken, therefore, increasingly by marketing people, and it is not an exaggeration to say that under automation, the ability to create, maintain, predict and constantly expand a market will be the major hinge around which business management will turn. Riding the business cycle, as we all do now, will become increasingly uneconomical.

The break-even point will go up in dollars, in terms of per cent of plant capacity. Therefore the margin for error which we now play with will shrink, continuously and guess work must be replaced, where possible, by timely factual data.

Automatic controls will permit rapid processing of orders and their automatic translation into production, and the implications for reduced inventory are very clear here. This will result, of course, in a shrinkage of the time lag between purchasing and production. This will also lead to new responsibilities of people in the advertising and sales promotion business, and it will give them the job of creating year-around markets for things that are presently seasonal.

The advent of this technological age and new product development will provide the marketing man with problems which will be staggering. We need better techniques for marketing new products and retailers and wholesalers and advertisers will have to have open minds about these new techniques.

The need for more marketing information is quite apparent. Of the $5 billion that was spent in research in the U.S. last year, less than 2% was spent on marketing research. That is strange when you think about it because on the average, for every dollar that the consumer spends, 53¢ is distribution cost.

The thing that has put the distribution people in this fix is the many billions of dollars that are being spent by technical people in developing new products and new processes. Now the monkey seems to be on the back of the distribution people.

Market Research

Mr. Spencer of Spencer Chemical Co., at a market research symposium, said, "Market research is the eyes and ears of business planning, provides the factual base and the analysis of otherwise intangible things on which business plans must be built. Business ventures most often succeed or fail according to the accuracy with which the sales market has been estimated."

Manufacturing cost, engineering requirements and organizational needs can be projected with reasonable confidence. The really difficult task is to predict the volume of sales and the selling price. Unless this task can be skillfully and accurately accomplished, the entire venture proceeds on a very shaky foundation. In short, without alert research work, both sales planning and management decisions are seriously handicapped.

In the 1940's and 50's the concern of management has been over new technological developments and top management recruits widely among engineers and scientists. I believe that in the mid 1950's, where we presently find ourselves, and in the next 10 to 20 years, there will be growing attention to economic and marketing trends and this will lead to considerable recruiting among

Stuart P. Orr

REPRESENTATIVE—Stuart P. Orr has been appointed feed chemicals representative in the Texas Chemical district for McKesson & Robbins, Inc. Out of Houston he will serve feed manufacturers in Texas. He formerly was with the United Fruit Co. in Honduras and Costa Rica. Mr. Orr is a native of Arkansas and a graduate of Mississippi State College. Previous to his United Fruit Service, he taught agricultural courses at Barton, Ark.

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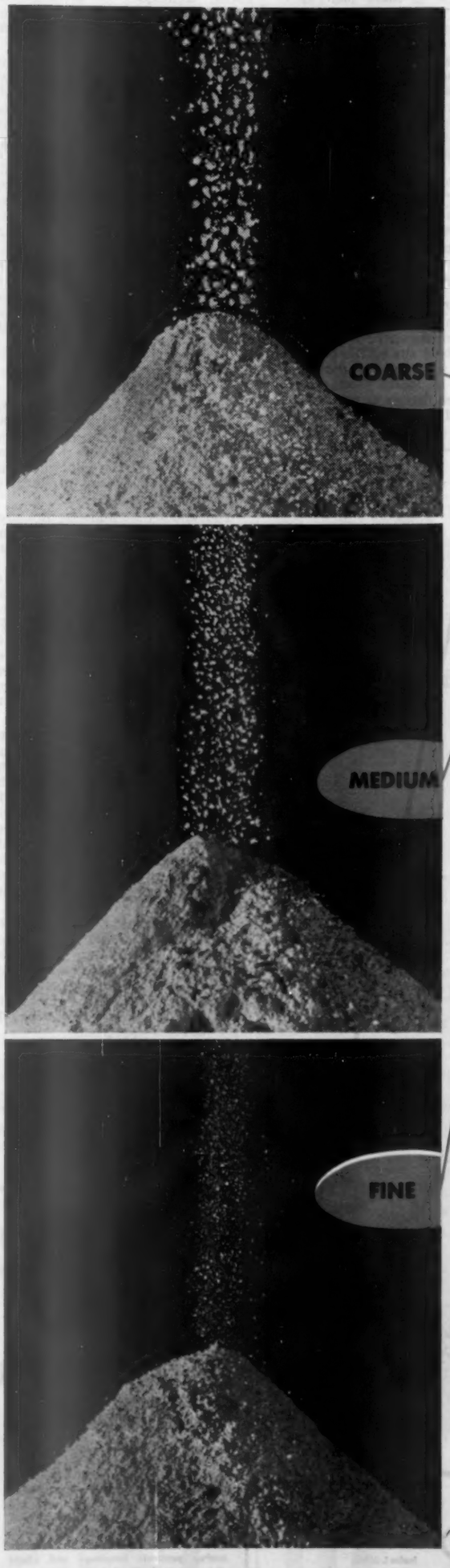

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economist and market research people for top management functions.

Again continuing on this trend basis, the situation we are facing will provide the technical schools with some very interesting problems. The acquisition of present knowledge, for example, won't do much for the undergraduate, since too much training in existing problems and current methodology may well impede the fresh viewpoint which leads people to explore new areas of thought. You can know too much about the old ones and not be interested in the new ones. The undergraduate of the future, whether he is in milling technology, electrical engineering, or market research, may be rated not by what he knows but the imagination he exhibits in approaching unsolved problems. In all forms of technology the man who can see and formulate the problem usually contributes more than the person who actually solves it. I would say that enlightened management recognizes these points today, and it is doing all it can to keep people stimulated with respect to creative thinking.

Creative Thinking

I can't pass up this chance to put in a plug for creative thinking. You hear about it a lot today. Certainly all of us need more of it. I'm sure that the feed business would not pass it by if it were presented. The confusing point has always been the difference between being able to think creatively and to think judiciously, analytically.

The important point is to define this creative process. It's one which combines past experience with present experience with possibly some deliberate distortion. I wonder if you ever thought about that. One arrives at new combinations, new patents and new configurations. Chance may solve some problem you are facing, but as the great scientist Pasteur once said, "Chance favors the prepared mind." Those who do think creatively in business are forwardly oriented. They are looking ahead.

People should set aside a definite period for creative thinking. Creative thinking must be planned.

Operations Research

I want to mention also the field of operations research, which came into being about the middle of World War II as a means for optimizing our ability to locate German submarines when there was a vast ocean area to find them. It is really the application of engineering and scientific techniques to problems of management in business, and I am sure that this will invade the feed field if it hasn't already.

Typical problems would be the studies of how to control traffic at a complicated intersection, the effect of a change in manufacturing process on new factory locations, the control of inventory in a supermarket, optimum location of underground tanks for the best possible distribution of liquefied petroleum gas, inventory predictions so that one always makes optimum use of the material on hand and many others of that sort.

Just as a final thought—we have at Midwest Research learned a little about the feed business recently because we have been helping Lloyd Larson of Midwest Feed in formulating a survey.

Sales Problems

It's interesting to note that it shows clearly that the major problems of the feed business are sales promotion, credit and finance, distribution and production. All but one of them have to do with sales, and that is why I devoted so much of my talk to that point.

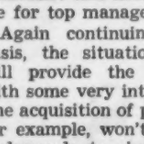
You know that Midwest Research and Midwest Feed are about to engage in a project. It was difficult to decide on this project because it was obvious that it would have to have three characteristics — a high interest level, clear cut results and be capable of direct utilization. So we came down to cost standards of in-plant operation. To the best of everyone's knowledge, this is the first time when the feed group has got together in the common interest to undertake jointly supported work.

These studies will be made of optimum practical methods for each uniform or each unit operation in the feed business. These studies will be made in several plants, and we will end up with some standards. We will be able to tell you what an idealized, practical plant should do and should be like, and you can determine from this how yours matches up. This might lead to some interesting equipment designs.

From my limited knowledge of the feed business, I would say that you have done an amazing job in the general field of nutrition. I would say that if the same attention to processing problems and equipment were paid, the industry would probably progress appreciably.

NEW MILL COMPLETED

CLERMONT, IOWA. — The Clermont Cooperative recently opened its new, larger mill, culminating an expansion program which started last May with an addition to the plant.



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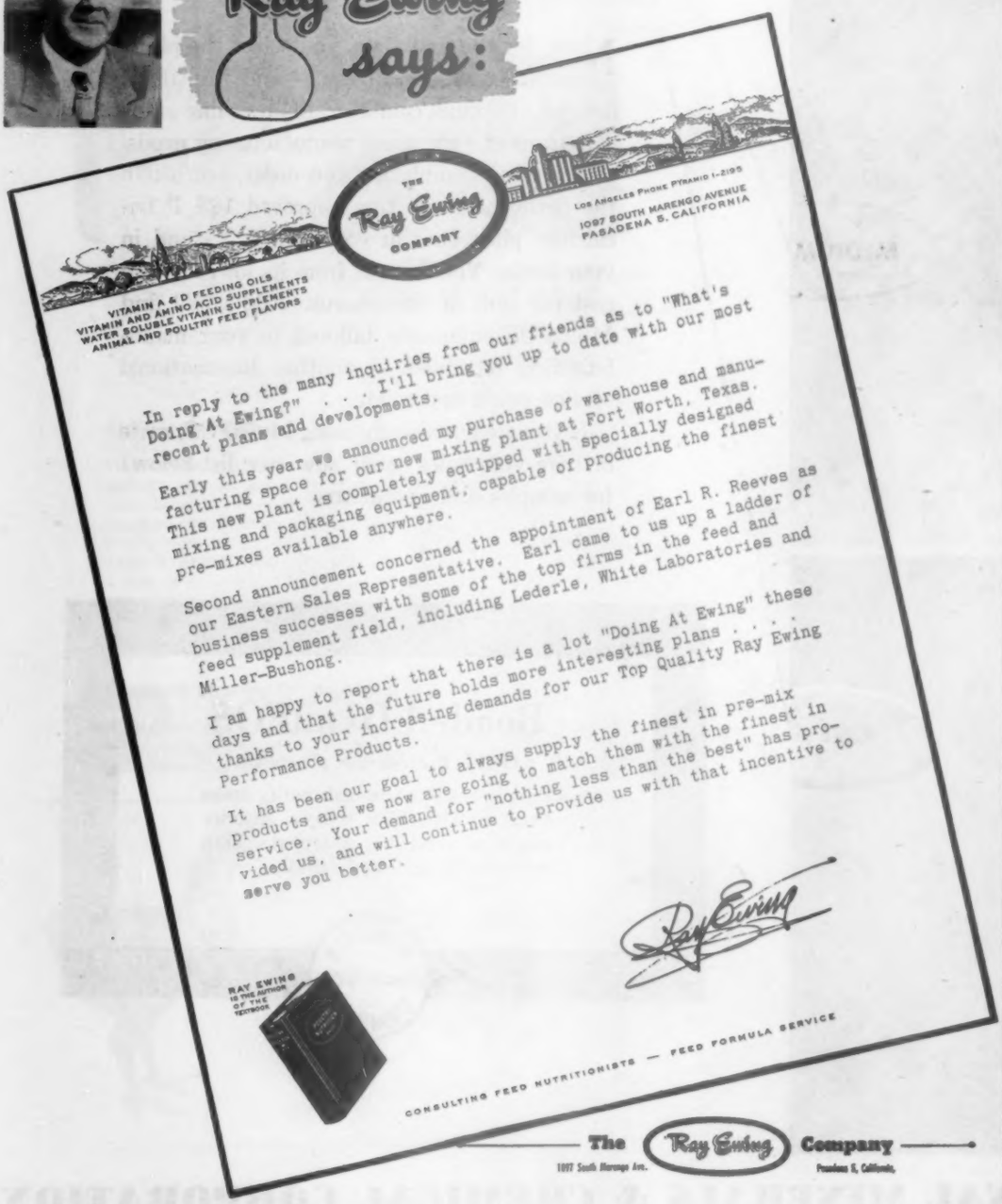
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Early this year we announced my purchase of warehouse and manufacturing space for our new mixing plant at Fort Worth, Texas. This new plant is completely equipped with specially designed mixing and packaging equipment, capable of producing the finest pre-mixes available anywhere.
Second announcement concerned the appointment of Earl R. Reeves as our Eastern Sales Representative. Earl came to us up a ladder of business successes with some of the top firms in the feed and feed supplement field, including Lederle, White Laboratories and Miller-Bushong.
I am happy to report that there is a lot "Doing At Ewing" these days and that the future holds more interesting plans . . . thanks to your increasing demands for our Top Quality Ray Ewing Performance Products.
It has been our goal to always supply the finest in pre-mix products and we now are going to match them with the finest in service. Your demand for "nothing less than the best" has provided us, and will continue to provide us with that incentive to serve you better.
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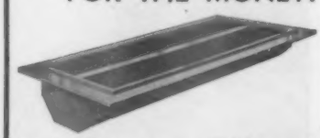

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State Bureau Drafts Tentative Revision of New York Feed Laws

ALBANY, N.Y. — Changes recommended by a committee representing New York feedmen have been incorporated "pretty generally" in a tentative revision of the state's feed laws just drafted by the legal bureau of the State Department of Agriculture and Markets, according to Judge Henry E. Gillette, chief counsel.

Judge Gillette said that in addition to the changes recommended by the feed men, the proposed new version contains provisions dealing with admixture of antibiotics and drugs, which will remove "question of doubt on right to do it."

Rules and regulations empowering the state commissioner of agriculture and markets to make slight changes not contrary to statutory laws are in the proposed new laws, Judge Gillette said. Also added are procedural items concerned with hearings.

The new version of Article 8 of the Agriculture and Markets Law, which is entitled "Sale and Analysis of Concentrated Commercial Feeding Stuffs," is not expected to be submitted to the legislature for action until next January, Judge Gillette said. He explained that a "cross section of opinion" is desirable before putting the new verison in final shape.

The legal bureau's draft is being presented to the commissioner of agriculture and markets, as well as various bureau heads, Judge Gillette said. It will also be submitted to "some experts in the field" for study, he stated. When the laws are in final shape, they will be resubmitted to the feed men's committee for consideration.

Members of the committee who discussed the recommended changes with state officials included Austin W. Carpenter, executive secretary of the Eastern Federation of Feed Merchants; D. R. Huckle, Cooperative Feed Dealers, Inc., Binghamton; C. O. Gourley, Beacon Milling Co., Cayuga, and Robert R. Ludwig, G.L.F., Albany, who represented committee member W. D. McMillan, also of G.L.F., Albany, in Mr. McMillan's absence. This committee presented the recommendations formulated as a result of a larger committee's study of New York's present feed laws.

Cottonseed Association To Hear R. M. Bethke

MEMPHIS, TENN. — "What the Feed Manufacturer Wants in Cottonseed Meal" will be the subject of an address by R. M. Bethke, vice president and director of research, Ralston Purina Co., before the 60th annual convention of the National Cottonseed Products Assn.

Dr. Bethke will address the convention on May 21 at the Statler Hilton Hotel, Dallas, Texas.

Mrs. Lucy R. Leonard

PROMOTED—Mrs. Lucy R. Leonard has been elected assistant secretary of the Buffalo Corn Exchange. She has been with the Corn Exchange for 27 years. Her election was the result of the exchange's board of directors' action Feb. 28.

Dealers Permitted To Sell Vaccines

EPHRATA, PA.—Feed dealers in Pennsylvania are permitted to sell poultry biological products if certain legal requirements are met.

Richard Ammon of the Pennsylvania Millers & Feed Dealers Assn., obtained an opinion to this effect from the Bureau of Animal Industry of the Pennsylvania Department of Agriculture after a newspaper earlier had run a story saying that under state law poultry vaccines could be purchased only from licensed veterinarians.

The state officials noted that poultry owners may purchase fowl pox vaccine, pigeon pox vaccine, Newcastle disease vaccine and infectious bronchitis vaccine for use in their own flocks. These biological products, it was explained, may be sold by certain authorized persons, including veterinarians and "authorized distributors." Feed dealers fall into the latter classification.

An authorized distributor is one designated as such in writing by an approved source company. The distributor also must report monthly the sale of all vaccines, including the names and addresses of purchasers and amounts of vaccines sold.

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Intensive War on Khapra Beetle Keeps Pest Under Control, USDA Says

WASHINGTON—A massive clampdown on activities of the khapra beetle has greatly reduced this insect's chances of spreading from the Southwest, the U.S. Department of Agriculture has announced.

In the first year of an intensive control program by Federal and State officials and the grain-handling industry, the insect has been eradicated by fumigation from about two-thirds of the grain-storage space found infested—60 million out of 90 million cubic feet. Fumigation of infested grain-storage buildings was begun in February 1955. Quarantine of premises and treatment of host commodities and grain sacks intended for re-use are helping to prevent the beetle's spread to new areas, says E. D. Burgess, in charge of plant pest control work for the Agricultural Research Service of USDA.

First identified in this country in 1953, the khapra beetle has been found in California, Arizona, and New Mexico at 345 locations, of which 158 have already been fumigated. Although inspection of almost 40,000 properties in 32 states has so far revealed no additional beetles, intensive inspection continues, and training of State and Federal inspectors in how to ferret out and identify the pest is considered best insurance against its gaining new footholds.

Search Extended

Since this insect depends on man for its spread, search for it has been extended to railroad boxcars that moved commodities from infested plants prior to the cooperative quarantine and eradication program. Federal and State inspectors have been able to dig back into records and obtain serial numbers of the cars. Each time one of them shows up on a main line, the railroads notify USDA's inspectors, and a thorough search is made of the entire car, inside and out.

By the end of February, 58 of 236 cars on the list had been inspected. Only one car has been found infected and that one had only three specimens. This car was covered over immediately and fumigated with methyl bromide.

This intensive search and fumigation program are regarded as being justified, first by the tremendous damage the beetle is capable of causing, and second because the insect was discovered while apparently still confined to a small area, Mr. Burgess points out. The beetle is considered the world's worst stored-grain pest, and probably could thrive or survive in any part of the United States. In California, fumigating operations to date have cost only one-half of one percent of the annual value of the crops they protect.

Most spectacular phase of the work has been fumigation with methyl-bromide gas of immense grain warehouses, covered with gas-impervious nylon plastic, to kill every beetle on the outside walls as well as inside the building. The plastic is anchored underground around the base, and the area around the building is sprayed with insecticide for additional protection.

One warehouse required 9½ acres of the plastic tarpaulin and 10½ tons of fumigant. Clothespin-like metal clamps hold the tarpaulin pieces together with airtight seams. This work must be done when there is little wind, because normal winds in the Southwest often tear the covering or pull it loose.

Forced-air circulation systems draw out air and circulate the gas by fans for quicker and more effective penetration of grain and building. Placed about the building and inserted into bulk grain to circulate the gas are probes with perforated tips attached to hoses and vacuum-cleaner motors. Similar probes carry methyl-bromide samples to a gas-analysis station, located outside the building, where a continuous check on gas concentration is maintained during the fumigation process.

John S. Carver Heads Washington Stations

PULLMAN, WASH.—Prof. John S. Carver will take over the reins of Washington's eight agricultural experiment stations, effective April 1.

On that date he will become acting director, agricultural experiment stations. Prof. Carver succeeds Dr. Mark T. Buchanan, director, who for the next two years, will head up Washington State College's intercollege exchange program in Lahore, Pakistan.

Since Prof. Carver will become eligible for retirement upon completion of his new assignment, a search for his successor as poultry science department chairman at Washington State has started. The Institute of Agricultural Sciences has appointed a committee to select nominees. Prof. I. L. Kosin is chairman, with L. R. Berg of the Western Washington Experiment Station and John P. Miller, extension poultry specialist, as members.

Prof. Carver's new appointment climaxes a career of 33 years of service to the poultry industries in the state of Washington. It was back in 1923 that he came to Washington State from Massachusetts. He came to WSC as professor and chairman of the department of poultry science, and has held that same post continuously ever since.

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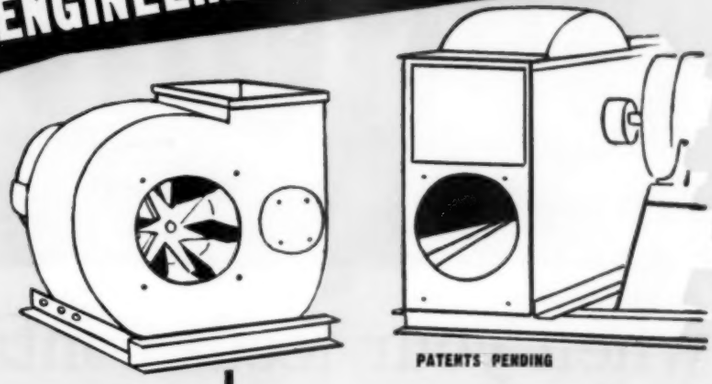

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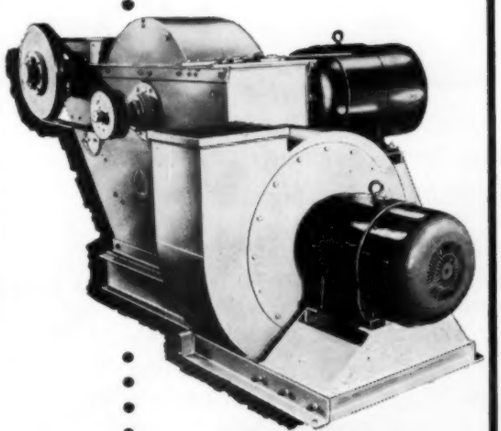

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USDA Expert Sees More Efficient Shelters for Livestock in Future

WASHINGTON—Management and environment have been getting more attention from livestock experts recently, and the importance of the right environment and housing and shelter in efficient livestock and poultry production is pointed up in recent comments and data from the U.S. Department of Agriculture.

A research engineer of USDA emphasizes that it will pay farmers to build livestock shelters with an eye to low-cost construction, better operating efficiency and—especially in the South—keeping animals cooler in summer.

Harry L. Garver, farm-buildings specialist of USDA's Agricultural Research Service, advises farmers to think of new livestock shelters and other service structures as tools—designed to do the job at hand, flexible enough to be easily adapted to changes in farm operations, and low enough in cost to be torn down and replaced by more suitable buildings, if that becomes desirable.

"Some old stone barns," he points out, "may be beautiful monuments to the past, but too often they wall in the farmer with out-moded methods, making him a slave to the four-tined fork and to many arduous and unloved chores."

Hot Weather Considerations

Besides providing greater efficiency at low cost, livestock shelters of the future will be designed especially to help animals maintain high productivity during hot weather, Mr. Garver believes. Citing research that shows the value of cool shelters, he sees a trend in farm-building design toward insuring optimum summer comfort, with less emphasis on keeping mature animals warm in winter. Very young livestock and poultry must continue to have proper protection against cold.

Mr. Garver points out that dairy cows can stand fairly cold weather but are quick to react to heat. Milk flow in Jerseys declines little until temperatures get down to about 25° F. Most well-fed Holsteins produce well at temperatures as low as 5° F. But feed consumption and milk production begin dropping off rapidly in Holsteins above 75° and in Jerseys above 80°. At 105° F., eating and milk flow virtually stop in both breeds.

Hot weather also cuts down on gaining rates in beef calves, Mr. Garver points out. Experiments by the Missouri Agricultural Experiment Station show that Shorthorn calves particularly, and Santa Gertrudis calves to a lesser degree, gained more when kept for a year in a 50° constant-temperature chamber than they did in an open shelter. Calves maintained the year 'round at a temperature of 80° F. gained less than those in open shelter.

Pays Dividends

Research indicates that even simple steps taken to keep cattle cooler in hot climates will pay dividends. Best shelter against summer heat, Mr. Garver says, is a shaded corral fenced by wire, especially if surrounded by green vegetation. One of the most effective shade materials is hay spread on a slatted canopy about 12 feet high. High board fences and broad surfaces of buildings near corrals should be avoided, since they reflect and re-radiate substantial amounts of heat to cattle, even when they are standing under shade.

Shelters built so they can be opened to the cooler northern sky in summer—and to available sun on the south side in winter—can be economical and effective in the South. Mr. Garver suggests a pole structure, with straw spread on the roof and bales of hay or straw forming the three closed sides, as one way to provide excellent shelter at low cost in mild climates.

University of California studies show that pigs weighing 100 lb. gain an additional 100 lb. on less feed when they are kept at about 70° F. than at other temperatures. Hogs weighing around 200 lb. use feed most efficiently at 60° F. The amount of feed saved at these optimum temperatures, Mr. Garver says, is enough to pay for good pig housing in a fairly short time.

Egg Production

Research at USDA's Agricultural Research Center, Beltsville, Md., has demonstrated that egg production is highest from hens at about 55° F. and 70% relative humidity, but temperatures anywhere between 40° and 70° F. are generally satisfactory. Below or above those limits, egg-laying declines. At 95° F., birds show decided distress and egg production practically ceases.

With research results such as these available, Mr. Garver says, farm-building designers are likely to make livestock shelters for summer use more open than in the past, especially for the South, and will undoubtedly give more attention to provision of cool shade for animals in hot weather. Increased use of fans and evaporative surface cooling, and possibly some use of refrigeration-type equipment, are likely in future livestock buildings.

In tests by the California experiment station, beef cattle in a corral equipped with a fan gained a pound more per day than cattle kept under similar conditions without fanning during three summer months in 1955, when daytime temperatures often climbed above 100° F. Cooling the drinking water for these animals from

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around 90°, the summer temperature of irrigation water in the area, to 65° F. also proved beneficial.

Design emphasis on low-cost construction, or more efficient operations—including increased use of power equipment—and on flexibility is already showing up in new livestock shelters. Modern buildings for loose-housing of dairy cows are good examples of the trend toward openness, low cost, and flexibility.

Loose housing readily permits changes in dairy herd size, or a shift from dairy farming to beef cattle with no changes except remodeling the milking room for storage or other use.

Portable hog houses and farrowing crates can be moved into loose-housing sheds when required by cold weather. With a few portable pens and fences, the sheds can be easily adapted for lambing, and they also make excellent shelters for outdoor chick brooders.

On the other hand, if the owner sees more profit in fruits and vegetables than in livestock, he can readily convert his loose-housing into packing sheds.

Vitamin K, Folic Acid Discussed at Twin City Nutrition Seminar

ST. PAUL—A nutritional review of folic acid and vitamin K was presented at a meeting of the Twin City Nutrition Seminar March 20 at the University of Minnesota. More than 50 representatives of the feed industry and the university attended.

Dr. I. E. Liener of the university presided.

Dr. Douglas V. Frost of Abbott Laboratories discussed vitamin K and field trials as concerned with the hemorrhagic syndrome. The likelihood of the incidence of field hemorrhagic disease will be lessened by further attention to the vitamin K adequacy of rations, Dr. Frost said.

Folic acid was discussed by Dr. Thomas H. Jukes of the research division of American Cyanamid Co. He told the seminar that folic acid, a vitamin of the B complex, has been shown to be needed for growth, feathering and prevention of perosis and anemia in chicks. There is current interest in the use of folic acid for chicks on feed that is low in alfalfa, he said. Fish meal, he added, is a poor source of folic acid.

This vitamin, first synthesized in 1945 by Cyanamid, is now being studied by enzyme chemists in the formation of amino acids—methionine, histodine and serine, Dr. Jukes continued. He said folic acid is of importance in practical nutrition for use in enabling methionine to be utilized effectively.

Roy H. Fishman

JOINS CSC — Commercial Solvents Corp. has named Roy H. Fishman to head sales development of its expanding animal nutrition products program, it has been announced by James V. O'Leary, general manager of the company's biochemicals division. Mr. Fishman will administer the company's sales campaign for its Baciferm and bacitracin antibiotic feed supplement. He will also be responsible for coordinating research, production and marketing of all products in CSC's animal nutrition line. Formerly sales service manager for the agricultural department of Standard Brands, Inc., Mr. Fishman is a graduate of the University of Wisconsin.

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No. 5423—Hammer Mill

The Southern Equipment Co. has announced production of its new Seco Super Twin Drive hammer mill. Separate mill and blower motors (both smaller than one motor used for both mill and blower) reduce starting demand by 25%, it is claimed. Grinding efficiency is improved by relocation of the blower on the back of the mill, providing a direct line of travel for feed, it is said. As little as 50 h.p. for the mill motor and 15 h.p. for the blower motor may be used on the 16-in. mill. Minimums of 60 and 25 h.p. motors are suggested for the 20-in. mill and 75 and 25 h.p. for the 24-in. mill. Other features claimed are an electrically welded body, heat hardened hammers, electronically balanced rotors and long-travel screens that are easily changed. To secure more complete information check No. 5423 on the coupon and mail it to this publication.

No. 5425—Live Yeast Culture

A new 2-color folder, "It Pays to Feed Diamond V. Brand Yeast Culture," has been prepared by Diamond V. Mills, Inc. Company spokesmen say that it is a comprehensive and complete treatment of live yeast culture. It outlines the factors which are added to livestock and poultry feeds by the inclusion of live yeast culture and shows an actual photo of live yeast cells. The folder explains what the product is, how it is manufactured and gives a resume of findings by researchers in many state agricultural colleges and experimental stations in checking the effects of live yeast culture in various types rations. Directions for its use are also included. Secure the folder by checking No. 5425 on the coupon and mailing it to Feedstuffs.

No. 5431—Iodine

Calcium iodate, reported as a new source of iodine, is now being used in Sterling trace mineral Blusalt, Green'salt (salt with phenothiazine and trace minerals) and Iodized salt blocks, announces the International Salt Co. Company spokesmen state that the new ingredient, which has recently been approved by the U.S. Food & Drug Administration for use in animal feeds, is a stable form of a compound of iodine. It replaces stabilized potassium iodide used in the company's previous farm-salt formulas. Company officials said that this source of iodine does not decompose when exposed to moisture and sunlight and does not leach out of a salt block. Secure more complete details by checking No. 5431 on the coupon and dropping it in the mail.

No. 5426—Corn Cob Process

William V. Karr and Michael B. Karr announce they have been granted patent No. 2,733,145, "Corn Cob Absorbent and Method of Producing Same," by the U.S. Patent Office. The invention relates to what is claimed to be an improved animal feed and method of producing it and is based on the discovery that certain constituents of the corn cob provide a valuable absorbent and nutritive carrier for various nutritional products, the announcement says. The Karr brothers plan to grant licenses to companies and individuals interested in processing corn cobs to be mixed with molasses or other animal feeds. For further information, check No. 5426 and mail the coupon to Feedstuffs.

No. 5424—Portable Blender

"Porta-Blend" is the trade name of a new portable blender designed by the Strong-Scott Manufacturing Co. The company announcement states that the unit "produces a highly uniform product when blending dry mix with molasses. It is a compact portable, low cost, continuous type blender, ideal for the small or custom mill. It blends accurately measured quantities of molasses, or any other liquids varying in viscosity

from water to that of heavy molasses, with a controlled amount of dry ingredients." The blender is mounted on four rubber tire casters, equipped with a flexible hose and comes available with either a 5 h.p. or a 7½ h.p. motor. The dry mix inlet may be spotted directly under the discharge of either a vertical or horizontal batch type mixer, or any similar discharge arrangement, it is claimed. Secure more complete details by checking No. 5424 on the coupon and mailing it to this publication.

No. 5428—Distillers Feeds Booklet

"Make More Milk With Distillers Feeds" is the title of a 14-page color booklet prepared by the Distillers Feed Research Council. The introduction is headed, "Dairying is big business" and sections following are devoted to how distillers feeds are made and used, their composition, research on distillers products, suggested dairy supplement formulas and calf starter and milk replacement formulas. Secure the booklet, which is available without charge, by checking No. 5428 on the coupon and dropping it in the

No. 3860—Utility Booklet

Rateonics Corp. has available a free booklet entitled, "How to Get More Results from 10% Less Power Costs." The firm is a utility cost consultant which studies the client's use of the utility and attempts to obtain the lowest possible rate for service plus advantages to be gained under that rate. The booklet may be obtained if you will check No. 3860 on the coupon and drop it in the mail.

Also Available

The following new products have been described in previous issues of Feedstuffs and information about them may still be obtained by jotting the appropriate number on the coupon and forwarding it to Feedstuffs.

No. 5388—Booklet on safety in the grain milling and storage trade, Accident Prevention Department of the Association of Casualty and Surety Companies.

No. 5389 — Cage laying operation booklet, Vineland Poultry Laboratories.

No. 5390—Clip art books on poultry and swine for advertising purposes, John Andrews.

No. 5391—Automatic bag packaging equipment, Bemis Bro. Bag Co.

No. 5392—Booklet on fats stabilization during rendering, American Meat Institute Foundation.

No. 5393—In-line helical gear drives, Link-Belt Co.

No. 6364 — Catalog on process plants, Chemical Plants Division of Blaw-Knox Co.

No. 5394—22nd edition of "Profitable Poultry Management," Beacon Milling Co., Inc., Cayuga, N.Y., free within Beacon's distributing area from the Virginias to Maine, excluding western Pennsylvania and western New York, $2 outside the area.

No. 5395—Aluminum conveyor line, Oliver Corp.

No. 5396 — High-speed vibrating screen, Hewitt-Robins, Inc.

No. 5397—Sifters, Sprout, Waldron & Co., Inc.

No. 5398 — Antibiotic and vitamin product for poultry water, VyLactos Laboratories, Inc.

No. 5399—Gyratory screen for dry materials separation, Allis-Chalmers Manufacturing Co.

No. 5400—Granular grind booklet, Prater Pulverizer Co.

No. 5401—CRD product container, Rockland Chemical Co.

No. 5402—Grinder for handling ear corn, small grain, hay roughages, etc., Prater Pulverizer Co.

No. 5403 — Grain and ingredient measuring device, American Iron Works.

No. 5404—Boxcar and truck loader, Power Curve Conveyor Co.

No. 5405—Gas brooder, Warner Brooder Corp.

No. 5406—Film on scours, Chas. Pfizer & Co., Inc.

No. 5407—Pallet repair manual, $1, Office of Technical Services, U.S. Department of Commerce, Washington 25, D. C.

No. 5408 — Feed analysis table, Nopco Chemical Co.

No. 5409—Grain sanitation booklet, Douglas Chemical Co.

No. 5410 — Conveyor brochure, Seedburo Equipment Co.

No. 5411—Health products booklet, Lederle Laboratories Division, American Cyanamid Co.

No. 5413—Rumen product, Dr. LeGear Medicine Co.

No. 5414—Booklet on rotary air lock feeders, Prater Pulverizer Co.

No. 5415—Grain sanitation movie, Douglas Chemical Co.

No. 5416—Weigh batching system, Heltzel Steel Form & Iron Co.

No. 5417 — Alfalfa bale shredder, Lakeland Engineering Equipment Co.

No. 5418—Feed supplement, Merck & Co., Inc.

No. 5419—Feeding practices bulletin, National Cottonseed Products Assn.

No. 5420—Grain process bulletin, V. D. Anderson Co.

No. 5421—Mobile feed unit, J. B. Sedberry, Inc.

No. 5422 — Pink wheat detector, Mill Equipment Sales.

Richardson Participates In Paris Trade Fair

PARIS—Automatic processing equipment designed by the Richardson Scale Co., Clifton, N.J., was one of the display attractions at the recent industrial fair at Paris.

Participating in the company's display was an Italian firm which manufactures a bagging scale under license by Officine Nuove Reggiane. Also participating in the display was Les Grands Moulins Duquesne, one of France's largest manufacturers of poultry feed and among one of Europe's first automatic feed mills.

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Use of Animal Fats in Feed

By Dr. M. E. Ensminger

Washington State College

EDITOR'S NOTE: In the accompanying article, Dr. M. E. Ensminger, chairman of the animal husbandry department at Washington State College, briefly reviews the reasons for using animal fats in feeds and then goes on to summarize research findings at various experiment stations on the use of fats. He also points out needs for further research on this subject and comments on the potential market for surplus fats in feeds. This article is an excerpt from a paper presented by Dr. Ensminger at the annual meeting of the Western States Meat Packers Assn. in San Francisco. Dr. Ensminger says the long range trend is for further declines in the demand for fats for export and for use in U.S. soap manufacture because of increased use of detergents. With proper research, promotion and education, he believes, there is a potential feed market for 1 billion pounds or more of animal fats.

The feeding of animal fats reminds me somewhat of the story attributed to the Iowa swine producer, who said that he grew corn to feed hogs to produce manure so that he could grow more corn to feed more hogs to produce more manure. Thus, in some respects, it would appear that the animal fat-feed cycle consists in producing fats to feed animals so that we can produce more fats to feed more animals.

Seriously, I do hope that we shall continue to make every effort to alleviate some of the surplus animal fats through scientific breeding, feeding, and marketing at lighter weights. In short, let us strive to remove the cause of the problem; in the meantime, let us meet the surplus fat dilemma through finding new outlets as livestock feed.

Why Add Fat?

Common belief to the contrary, animals can tolerate a rather high fat content in the ration. As evidence of this, it is to be noted that sucklings normally handle a relatively large amount of fat, for milk contains 25 to 40% of this nutrient on a dry-matter basis. Also, except for the soft-pork problem, no apparent difficulty is encountered in feeding hogs on a rather high fat diet, such as results when large quantities of peanuts and soybeans are fed.

As livestock feeds, fats function much like carbohydrates in that they serve as a source of heat and energy, and for the formation of fat. Because of the larger proportion of carbon and hydrogen, however, fats liberate more heat than carbohydrates when digested, furnishing approximately 2.25 times as much heat or energy per pound on oxidation as do the carbohydrates. A less quantity of fat is required, therefore, to serve the same function. In addition to having a higher energy value (a concentrated source of calories), fats serve as carriers of the fat-soluble vitamins, lend palatability to the diet, and provide a source of essential unsaturated fatty acids (there is evidence that humans, rats, and dogs require certain of the fatty acids).

In addition to feed efficiency and possible other animal benefits, there are several advantages to adding fats to rations from the standpoint of feed mixing, including: (1) Control of dustiness, (2) decreased wear on mixing machinery, (3) improved appearance and "feel" of the ration, and (4) greater ease in pelleting.

It is estimated that we are currently feeding animal fats at the rate of about 250 million pounds annually. Thus, stabilized animal fat has become accepted as a high quality ingredient of today's feed bag. But we have only tapped a very small amount of the potential market. Actually, we are only using less than 25% as much fat as appears likely that we can and shall use. If each ton of manufactured feed merely had 1% added animal fat, the consumption of animal fats would rise sharply to 700 million pounds per year.

It is encouraging to note that research studies in the feeding of animal fats have opened up new frontiers; new markets for animal fats. Among some of the pertinent findings to date are the following:

1. At the State College of Washington, where cattle fattening investigations are being conducted with a grant-in-aid provided jointly by the National Renderers Assn. and the Western States Meat Packers Assn., Inc., 7% fat increased the rate of gain of steers fed alfalfa hay by an average of 0.37 lb.—a little more than a third of a pound—per head per day.

2. At the North Carolina Agricultural Experiment Station, the addition of 5% animal fat to a cattle fattening ration reduced the pounds of feed required per pound of gain by approximately 10%.

3. The Nebraska station and the American Meat Institute also report the successful addition of animal fats to cattle fattening rations.

4. At the State College of Washington, animal fat levels of 7½ and 15%, respectively, were fed successfully to growing-fattening pigs. Also, back in 1945-46, my colleagues and I at the Washington station incorporated 11% lard in "purified rations" for gestating-lactating sows, and obtained satisfactory reproduction and lactation.

5. At the North Carolina Agricultural Experiment Station, the use of 10% fat in swine rations for growing-fattening hogs reduced the feed re-

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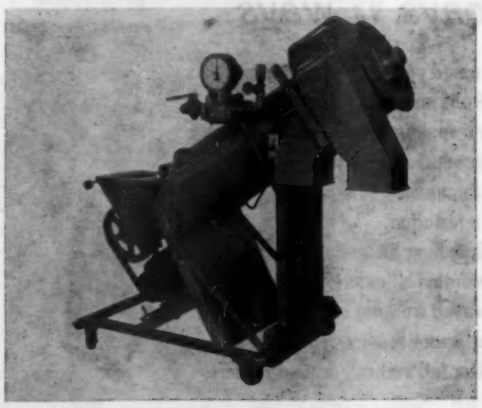
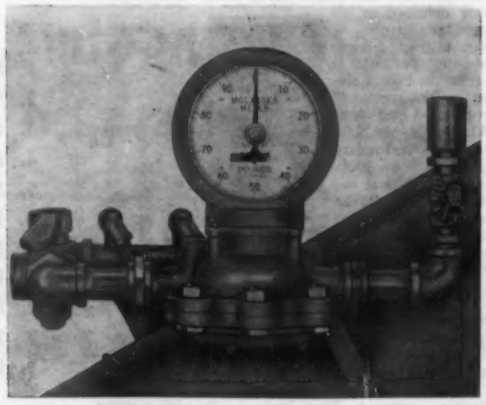
NEW PRODUCT NEWS

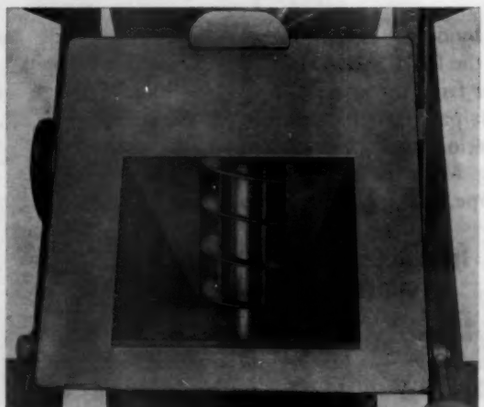
NEW PORTA-BLEND MIXES MOLASSES, FISH SOLUBLES, FATS WITH FEEDS



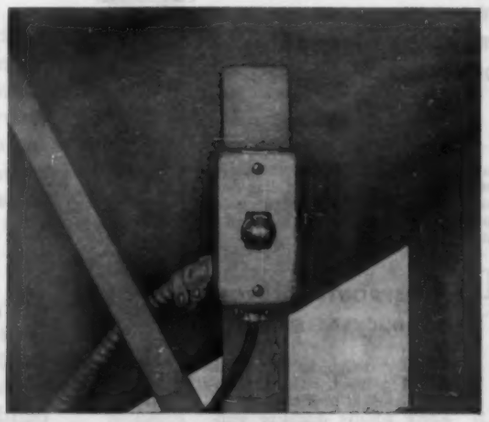
Whether mixing molasses, fats, or fish solubles with your formula feeds, the new Strong-Scott Porta-Blend does a complete and uniform job of blending, accurately and quick. It is a low-cost, compact, portable blender, equipped with a double sacker.



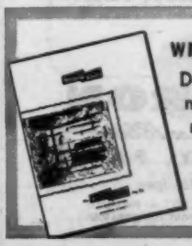
The Porta-Blend has a handy gate valve for controlling liquid flow—a meter, accurately measuring the liquid flow in pounds, as well as the total pounds used—plus a three-way selector for passing liquid into the blender—back to supply tank—or for bulk take-off.



Looking into the dry mix inlet of the Porta-Blend, you see the counter-balanced feed gate which actuates the signal light—the all-steel screw feeder which carries the dry mix into the blending chamber—and at the top, the handle of the slide-gate controlling the dry mix flow.



The automatic signal light flashes RED when there is no dry mix entering the inlet hopper. This allows the operator time to shut off the liquid flow and prevent spraying into an empty blending chamber. One of many exclusive features of the Strong-Scott Porta-Blend.



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quired per 100 lb. of gain by an average of 60 lb. or approximately 17%; and the carcasses of fat-fed animals were not appreciably fatter than those on standard control rations. Also, the North Carolina investigators found that hogs performed well on diets with 41% animal fat, provided adequate protein, minerals, and vitamins were added.

6. Also, feeding experiments with growing-fattening pigs, in which animal fats were added, have been conducted by the University of Florida, Purdue University, Oklahoma A&M College and West Virginia University. Generally, these stations reported that a substantial improvement in both rate of gain and feed efficiency was obtained when 1 to 15% animal fat was added to the ration.

7. At the Texas Experiment Station, it was found that the optimum level of rendered animal fat to incorporate in lamb fattening rations was from 5 to 10%; when 15% animal fat was added, the gains were lower, less efficient and more costly, and the carcass grades were lower.

8. Also, poultry scientists—notably at Wisconsin, Illinois, and the U.S. Department of Agriculture — have conducted a number of investigations in which different levels of animal fats have been added, for both laying hens and broiler production. Greater production on less feed seems to be rather uniformly reported. Recently, the Ontario Agricultural College of Canada reported that the strain of bird was an influencing factor in the use of tallow.

Although more experimental work is needed, it appears that up to 5 to 6% animal fat can be added successfully—with increased rate of gain and feed efficiency—to the rations of farm animals and poultry, provided the fat is first stabilized to prevent rancidity (Rancid fat in feed will destroy vitamins E and A quite rapidly, thereby impairing feeding results). Also, in compounding such rations, consideration must be given to the fact that fats do not provide proteins, vitamins or minerals.

More Research Needed

Research has, indeed, shown that animal fats may be fed successfully to fattening cattle, sheep, swine and poultry. But more information is needed. More specifically, and among other things, we need to know the following:

1. We need to know the optimum level of fat in different feed mixes and for different classes and ages of animals.

2. We need to know more about protein-energy relationships.

3. We need to know more about the grade and palatability of fat to use; without doubt the nature and composition of fat do affect the results.

4. We need to know more about methods of stabilizing fats with chemical antioxidants such as compounds containing butylated hydroxyanisole (BHA), storing, heating, and mixing fats; and how best to add them to dehydrated alfalfa meal.

5. We need to know more about the myriad and perplexing problems of interrelationships of nutrients, of intestinal synthesis, of nutritional changes in processing, and of the effect of dietary nutrients on the quality of products produced.

It has been well said that today's animal research will fashion tomorrow's market. In no area is this more true than in studies relative to animal fats in feeds.

Research is Not an Expense, but an Investment

Research is not an expense, but an investment—an investment that pays handsome dividends. Research has:

1. Boosted U.S. farm income to 10 billion dollars a year.

2. Increased crop production per acre 36% during the last three decades—thus providing increased production even though the crop acreage of the country has essentially remained unchanged.

3. Increased animal units by 15% and production of meat, milk, eggs, and wool per animal unit by 46% during the past three decades.

One noted authority has said that for every dollar that the USDA has ever expended in research during its whole existence, we are getting back returns of $500 every year. Indeed, science is fashioning a new and better world, and the feeding of animal fats can and should be a part thereof.

Practical Promoting Fats in Feeds

Lastly, there is need for practical promoting and selling of fats in feeds and in dehydrated alfalfa meal; there is need for a sound merchandising

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You get many *plus* values when you deal with your SPROUT-WALDRON MAN. He has America's most complete line of feed milling equipment. In conveying equipment, he offers such a wide choice of types, styles, and sizes that he can be completely unbiased in his recommendations.

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You also get expert, on-the-spot guidance in selecting the best equipment to do your job, for your SPROUT-WALDRON MAN is thoroughly trained to help solve your problems. He's practical and anxious to help you increase your profits year after year. And, being one of a team, he has access to the accumulated experience of the entire Sprout-Waldron sales and engineering staff.

Typical of our representatives is Jack Hunter whose background consists of early, practical experience in a flour and feed mill, and years of selling to that industry—both as president of his own firm and vice president of a West Coast mill machinery company. This background helps Jack to help his customers. With such men to help you, you're bound to buy *right* at Sprout-Waldron.

SPROUT-WALDRON
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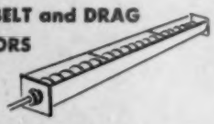
CONVEYORS



You'll find a complete line of the latest, most improved belt, screw, and drag conveyors that move feeds horizontally, vertically, and on an incline at Sprout-Waldron.

SPROUT-WALDRON
BUCKET ELEVATORS

Properly designed head, high operating speed, and other features result in peak capacity and assure positive discharge without back-legging. Units available in many sizes for all purposes.

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Here's the answer to the big, growing demand for piped-in-feeds. The Feed Piper Pneumatic Bulk Truck pipes feeds anywhere... economically. Equipped with optional self-loading feature.

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1. Increased production—greater safety.
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3. Lower maintenance costs.
4. No product intercontamination.
5. No fan wear.
6. No infestation.
7. No handling losses.
8. Elimination of exterior dust.
9. Improved working conditions.
10. Small space requirements.
11. Horizontal, vertical, around corners.

In this modern, negative-pressure or draw-through system, the fan is located on the opposite side of the collector from the material conveying line. Material does not pass through the fan. Mechanical friction and exterior dusting are eliminated. The unit is self-cleaning. Materials can be routed anywhere you can run a pipe. There is a minimum of moving parts.

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John H. Skinner, Jr.

JOINS DAFFIN—John H. Skinner, Jr., has joined Daffin Manufacturing Co., Lancaster, Pa., as sales promotion manager, according to an announcement by Irl A. Daffin, president. The firm manufactures the Daffin mobile feed mill and a line of "packaged" feed plants for stationary installations. Mr. Skinner, formerly of Springfield, Ill., has had considerable experience in the feed industry, having been associated with some of the major feed manufacturers in advertising and promotion work.

and educational program, especially among small firms.

With proper research, promotion and education there is a potential feed market for 1 billion pounds or more of animal fats. This is a logical and practical way in which to cushion inevitable decreases in exports. But, the purchase of fats will be and should be subjected to the same scrutiny by the feed manufacturer as is the purchase of any other feed ingredient; namely, price, availability, quality and results. In initiating a "fat-in-feed" program, the feed manufacturer is admonished to select the better grade fats, that are palatable, and that have a guaranteed stability (20 hours or more, Active Oxygen Method—the A.O.M. test). Subsequently, the middle or lower grades of fats should be used only if experience shows that feed quality can be maintained.

A 3% enrichment of all commercial feeds—an amount well within the range of practicality for most feeds, from either a nutritional or physical properties viewpoint—would utilize 2.1 billion pounds of fats. An average of 3% enrichment of poultry feeds alone would require some 1,227,000,000 lb. of fat. In 1954, we produced 2,621,000,000 lb. of grease, of which 1,501,000,000 pounds was consumed domestically; thus there was a domestic surplus of 1,158,000,000 pounds in excess of domestic requirements. The latter, which was largely absorbed by the export market, is a potential source for feeds.

EXPANDING MILL

PAYNESVILLE, MINN.—The Moronis Mill here has started a $20,000 expansion and remodeling program. A new 75 h.p. hammermill and a new three-ton mixer will be installed to supplement present equipment, which includes one-ton and two-ton mixers. Also planned is expansion of the mixer room and the installation of six overhead bins and a 24-ft. truck scale. Docks are being extended and the driveway will be enclosed.

Prizer Gives Painting To Kansas State

MANHATTAN, KANSAS—An oil painting, used originally as "copy" for an illustration in an advertisement by Chas. Pfizer & Co., Inc., has been presented to the department of flour and feed milling technology, Kansas State College, by J. J. Thompson, director of agricultural sales for the Pfizer organization.

The presentation was made by Mr. Thompson to Dr. J. A. McCain, president of the college, at a luncheon March 27. The painting, done by T. M. Hoyne, is 24 in. by 20 in. and was used in an advertisement which appeared in the Jan. 14, 1956, issue of Feedstuffs. It was captioned "Science Comes to the Farm in a Feed Bag."

College officials have indicated that it will be hung in the library of the Feed Technology School.

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Lilly REPORT TO CATTLE FEEDERS

'Stilbosol' plus protein ... puts more meat on market cattle

Feeding tests show need for ample protein in ration to get full gain-boosting benefits from 'Stilbosol'

Most cattlemen have watched 'Stilbosol' prove itself as a great beef gain-booster. New evidence indicates that top gains come by taking advantage of the 'Stilbosol'-protein partnership. Ohio State University scientists recently ran a series of feeding tests that proved you must keep the nutritional pipe line filled if you expect to get the most for your feed dollar.

Six groups of steers were fed a high grain ration for 84 days. Three of the six groups (controls) received different amounts of protein supplement without 'Stilbosol.' The other three groups had 10 milligrams per day of 'Stilbosol' added to the same basic rations. Some important facts show up in this comparison of results:

	CONTROLS			'STILBOSOL'-FED		
No. steers	7	7	7	7	7	7
Protein suppl. per head daily	None	½ lb.	1½ lbs.	None	½ lb.	1½ lbs.
Av. daily gain (lbs.)	2.00	2.14	2.37	1.97	2.59	2.85
% increase in daily gain	—	7%	18.5%	—	31.5%	44.7%

This experiment gives the cattle feeder two very important facts: 1. Protein supplement itself can produce extra beef. 2. 'Stilbosol' plus protein is *more than twice as powerful* in its ability to produce extra pounds of beef.

How will you use 'Stilbosol' in 1956?

Around 6,000,000 cattle were 'Stilbosol'-fed in 1955. If you are not yet using 'Stilbosol'-fortified supplements, talk it over with your feed supplier. He can show you the advantages of feeding 'Stilbosol' to get more beef at less cost and, in that way, help you increase your beef-feeding profits.

Stilbosol
(Diethylstilbestrol Premix, Lilly)
Lilly

'Stilbosol' is Eli Lilly and Company's trademark for Diethylstilbestrol Premix. 'Stilbosol' is the only such premix compounded under license from the Iowa State College Research Foundation, Inc.

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St. Regis Personnel Changes Announced

NEW YORK—St. Regis Paper Co. announces that Willard E. Hahn, vice president, has been named manager of manufacturing for all St. Regis packaging and converting plants as well as for the engineering and machine department and the wire tie department of the company.

Mr. Hahn has been responsible for all multiwall bag manufacturing operations and has also served as resident general manager of the St. Regis kraft center at Pensacola, Fla. Mr. Hahn and his staff will make their headquarters at the St. Regis New York City offices.

Succeeding Mr. Hahn as resident general manager at the Pensacola kraft center is William E. Caldwell, who has been resident manager for all St. Regis operations at Kalamazoo, Mich.

George E. Epley has been named acting resident manager of all St. Regis operations at Kalamazoo, which include the paper mill and decorative St. Regis panelyte plastics plant there. Mr. Epley has been administrative assistant to the resident manager at Kalamazoo.

Byron Steenburgh, Jr., has been named paper mill superintendent at the Kalamazoo mill. Mr. Steenburgh was formerly at the St. Regis mill at Deferiet, N.Y.

Walter W. Hanes will leave his present position at Pensacola to serve as assistant to Alex Smalley, vice president in charge of labor relations, and serve as assistant on industrial relations to Mr. Hahn.

C. Wells Clark has been named general superintendent at the St. Regis printing, publication, and converting paper mill at Bucksport, Me., of which Frederic C. Goodwill is resident manager. Mr. Clark was formerly chief chemist at the Deferiet mill.

S. Kepple Pratt has been appointed general superintendent of pulp and paper operations at the St. Regis kraft pulp, paper and board mill at Tacoma, Wash., of which Jack M. Lamb is resident manager. Mr. Pratt was formerly at the St. Regis mill at Jacksonville, Fla.

Lester J. Smith has been named assistant to John A. McDermott, manager of paper production for all St. Regis paper mills. Mr. Smith will also continue in his position as general superintendent of St. Regis paper mills in northern New York at Deferiet, Carthage and Herrings.

Thomas Gerace has been named assistant to U. J. Westbrook, manager of pulp production for all St. Regis pulp mills. Mr. Gerace will also continue in his position as pulp superintendent of St. Regis mills in northern New York.

DISTILLERS DRIED GRAINS PRODUCTION

January, 1956, With Comparisons

The Production & Marketing Administration reports the following statistics on distillers dried grains output (in tons of 2,000 lb.):

	Dark grain	Light grain	Dried solubles	Total
Jan., 1956* ..	12,900	7,100	4,200	24,200
Dec., 1955 ...	15,200	6,300	4,600	26,100
Jan., 1955 ...	9,600	5,900	3,500	19,000
Dec., 1954 ...	12,500	4,700	3,600	20,800
Season's total:				
Oct.-Jan., 1955-56	59,900	30,100	18,300	108,300
Oct.-Jan., 1954-55	49,300	20,300	15,600	86,200

*Preliminary.

Stocks of distillers dried grains on hand at plants and warehouses Jan. 31, 1956, amounted to 3,100 tons, compared with 2,800 tons Dec. 31, 1955, and 2,300 tons Jan. 31, 1955.

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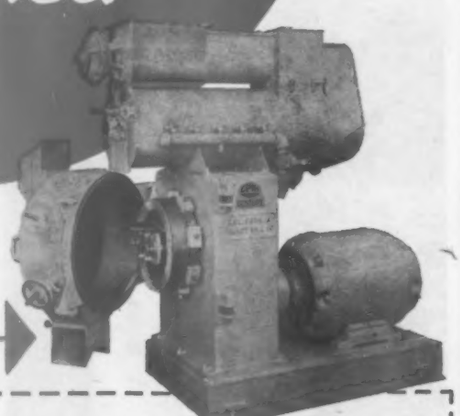

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Information Reported on Hemorrhagic Disease Syndrome in Poultry

CHICAGO—Information and comments on the hemorrhagic syndrome of poultry were provided recently by Dr. L. C. Norris of Cornell University and Dr. Tevis M. Goldhaft of Vineland (N.J.) Poultry Laboratories.

These two authorities spoke at a symposium at the last meeting of the Nutrition Council of the American Feed Manufacturers Assn., and their papers were presented in a recently issued report on the proceedings of the meeting.

Dr. Norris concluded by saying that "no one has yet shown that a deficiency of vitamin K is not implicated in the development of the hemorrhagic syndrome of the chick, due apparently to inability to set up and conduct well controlled field experiments."

He said the problem is greatly complicated by changes in formulas of chick rations and by changes in the processing of ingredients which have materially reduced the vitamin K intake and by the use of sulfa drugs which are known to increase the vitamin K requirement.

"The possibility exists, therefore, that some of the field hemorrhagic disease is pure vitamin K deficiency and some is due to the use of vitamin K antagonists which act as stress factors," Dr. Norris said. "The immediate task ahead, therefore, is to clarify the problem by determining if vitamin K deficiency is implicated in all cases of field hemorrhagic disease, and if so, to find out how much is required under normal conditions and under conditions of stress."

Dr. Norris initially reviewed the history of the hemorrhagic syndrome and noted that the symptoms bear some similarity to the symptoms of vitamin K deficiency.

Changes in Feed

He went on to point out changes in recent years which have occurred in formulas of chick rations, in the character of ingredients and in feeding practices, all of which have tended either to reduce the quantity of vitamin K in the diet or to increase the need for the vitamin. Also, he called attention to research showing that certain materials are antagonists of vitamin K.

Regarding the possibility of the existence of two forms of the syndrome, Dr. Norris said: "Although we do not believe that the field hemorrhagic syndrome of the chick is usually uncomplicated vitamin K deficiency, no one has yet shown that a deficiency of this vitamin is not implicated in the development of the disease. In our opinion, therefore, the existence of two forms of the hemorrhagic syndrome has not been proved."

Dr. Norris reviewed some of the recent research on the syndrome and vitamin K deficiency, citing experiments where certain materials increased blood clotting time and vitamin K reduced the blood clotting time.

He also described some recent Cornell work on the problem, where sulfaquinoxaline was used as a stress factor and effects of vitamin K were studied.

In his paper, Dr. Goldhaft said that there has been enough work done to indicate that the hemorrhagic disease is not specifically a vitamin K deficiency, but there is also evidence to indicate that many of the birds affected seem unable to utilize the vitamin K which exists in the feed. The supplementary use of vitamin K is a valuable instrument in handling the outbreaks of this condition, he said.

"The incidence of anemias in growing birds is very great," Dr. Goldhaft said, "and some ingredient, combination of ingredients or feed additive is the most likely suspect as the primary cause of the trouble."

Dr. Goldhaft described the pathology of the disease and discussed possible causes. In this connection, he cited cases where the disease was not brought on by use of a drug. In some

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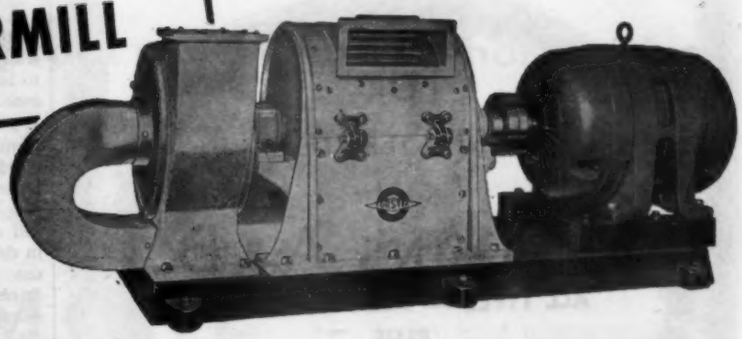

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Ralph R. Lee

Jack C. Frost

ARCADY FARMS PROMOTIONS—Ralph R. Lee, Terre Haute, Ind., has been promoted to the position of manager of the special market division of Arcady Farms Milling Co., Chicago, it has been announced by Frank W. Adams, company president. Mr. Lee took over his new duties recently after 20 years as manager of the firm's central division. Effective the same date was the appointment of Jack C. Frost as central division manager. Mr. Frost is now in charge of all Arcady feed sales in Ohio (southeastern portion excepted), Michigan, Indiana and Kentucky.

cases, it appeared, the condition was aggravated by the drug, he said.

He listed various conclusions drawn from the handling of cases of anemia and hemorrhagic disease. These included:

1. Many flocks of meat birds and laying bird replacements have been affected with a condition which produces hemorrhages in some birds and symptoms of anemia in others when the birds are four to ten weeks of age.

2. Modification of the feeding program has had no effect on the course of the condition once it has started.

3. No bacteria, virus or other infectious agent has been recovered which would indicate the conditions to be an infectious or contagious disease.

4. There is evidence that the blood forming organs and the blood itself is adversely affected in many of the birds as indicated by slow blood clotting time and low hemoglobin and red cell counts. In cases of hemorrhage in debeaking, it has been found that use of synthetic vitamin K in the drinking water prior to debeaking eliminates losses.

5. Menadione and menadione sodium bisulfite have been used in the feed and water, and the latter has been more effective. Menadione bisulfite is not believed to need bile salts in order to function. In cases where a response is obtained from use of the synthetic vitamin K for treatment of hemorrhagic disease, the response is quite dramatic. Not all flocks responded to the treatment. In many cases of hemorrhage in combs of young pullets, flocks which were treated with vitamin K did not come down with chronic respiratory disease symptoms which seemed to follow later in untreated flocks.

6. The hemorrhagic disease syndrome is a diagnosis which has been used to cover a multitude of poultry diseases. In some cases the hemorrhage itself was the direct cause of death. In many others, the birds suffered from an anemia and some other disease stepped in and caused the loss. It appears that the disease complex is directly related to nutrition. The fact that the condition has been found in day-old chicks in absence of any disease producing agent makes one suspect the diet as far back as the breeders. The current tendency to use a large amount of medication in growing birds probably sets off this disease entity.

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CLUB OFFICERS — Officers of the newly organized Foremans' Club at the Cosby-Hodges Milling Co. are left to right, Frank O. Jenkins, secretary-treasurer, William L. Dodd, president, and James L. Wilson, vice president.

Foremen Form Club At Cosby-Hodges

BIRMINGHAM, ALA. — J. C. Hodges, Jr., vice president and secretary-treasurer of Cosby-Hodges Milling Co., has announced the organization of the Cosby-Hodges Foremans' Club by the supervisory personnel of the production, maintenance and shipping divisions of the company.

William L. Dodd, feed mill control room operator, who was elected the club's first president, said the objective of this club is to improve the quality of foremanship and to promote unity in management by education and association through the medium of the club.

Other charter officers of the club are James L. Wilson, vice president, and Frank O. Jenkins, secretary-treasurer. Mr. Wilson is foreman of the flour blending mill and Mr. Jenkins is in the truck shipping department. Club President Monthly programs during the next 12 months will be devoted to educational presentations by various departments of Cosby-Hodges. Occasional social outings will also be held.

In addition to the officers, other charter members of the club are: Albert Gerald, James Battle, Howard Brasher, Charles Glidewell, Malcolm Burnett, Percy Hughes, O. H. Edwards, W. A. Rutledge and Harold Walls, feed milling division; Claude Winslett, Huie Odum, Clarence Mangham and J. H. Owens, mill maintenance; Grady Burks, Thomas Brewer, Aubrey Doggett, Fitz Douthit, Robert LeFoy, John McGimsey, Jack Cate, Garland Tuck and J. H. Blacklidge, shipping department; Tyra Trammell and H. B. Mangham, flour milling division; A. G. Johnson and Edward Latham, truck maintenance and James A. Sosebee, sign department.

6 Chicago Exchange Departments Relocated

CHICAGO—Six service departments of the Chicago Board of Trade —sampling, weighing, public relations, transportation, provisions and cotton, oil and meal inspection—have moved into new consolidated quarters in the northwest section of the tenth floor of the Board of Trade Bldg.

With the exception of some departments remaining on the fourth and fifth floors, all offices of the various exchange departments now are located on the tenth floor. The consolidation move was made to increase operating efficiency and reduce rental space costs, Robert C. Liebenow, executive secretary, reports.

TO SELL FEED

GRINNELL, IOWA—The Caughey-Shine Tractor Co. has announced that it will now handle the complete line of livestock and poultry feeds made by Nutrena Mills, Inc.

F. P. Heffelfinger, Jr., In New Peavey Post

OMAHA — F. P. Heffelfinger, Jr., will become vice president, general manager and director of the Omaha Elevator Co. on April 1. The company is a subsidiary of the F. H. Peavey & Co., Minneapolis.

Mr. Heffelfinger comes to Omaha from Duluth, Minn., where he has served as assistant secretary and assistant general manager of the Globe Elevators division of the Peavey company.

He replaces R. C. Greene, who will move to Buffalo to become assistant secretary of the American Elevator and grain division of the Russell-Miller Milling Co.

L. A. Remele, formerly with Van Dusen Harrington Co. at Minneapolis, will move to Duluth as assistant secretary of Globe Elevators.

NEW FEED FIRM

WOODHULL, ILL. — A new feed business has been opened here by R. J. Bergstrom, owner and operator of the Bergstrom Seed Co. The firm will handle a full line of Murphy's Cut-Cost feeds, minerals and concentrates. The company also carries farm seeds and offers seed cleaning and treating service.

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Premium prices are being offered by alert processors who recognize the quality features of Liponettes.

We are urging growers to discuss Lipamone with their feed dealers. Are you fully acquainted with the Lipamone story? We'll be glad to give you complete information and to answer your questions.

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Lipamone: a free-flowing feed additive for broiler finishers. It contains 14% dienestrol diacetate, a feminizing hormone, in corn distillers dried grains.

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Liponette(TM)**:** a broiler which has been Liponized. The demand for these extra-quality birds means better sales for the grower and processor and profit for the manufacturer who supplies the Liponized broiler finisher.

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Camera Views of the News

SPEAK AT DISTILLERS CONFERENCE—Speakers at the 11th annual conference sponsored in Cincinnati by the Distillers Feed Research Council recently are shown above. They are, from left to right, as follows: (seated) T. D. Runnels, University of Delaware; L. E. Carpenter, DFRC executive director; C. L. Cray, Jr., Midwest Solvents Co., Inc., DFRC president; W. T. Diamond, secretary, American Feed Manufacturers Assn.; Dr. L. C. Norris, Cornell University; Dr. N. L. Jacobson, Iowa State College; (standing) Dr. Damon V. Catron, Iowa State College; Dr. J. K. Loosli, Cornell University; Dr. S. L. Adams, Joseph E. Seagram & Sons, Inc., outgoing president; Dr. E. I. Robertson, John W. Eshelman & Sons; Dr. J. R. Couch, Texas A&M College; Dr. Frank H. Baker, University of Kentucky; C. H. Noller, Purdue University; Dr. O. G. Bentley, Ohio Agricultural Experiment Station.

NEW APPARATUS—Efficient heat removal is a principal feature of this Kjeldahl apparatus installed in the new laboratory of the Department of Flour and Feed Milling Industries at Kansas State College, Manhattan. Built by the Laboratory Construction Co., Kansas City, the apparatus has 36 units of digestion, 18 units of distillation. The entire unit is installed inside a Labconco Hood, where heat is collected and carried off by a hood blower. The sink in the center, plus facilities for storing and dispensing acid and caustic solutions, also were furnished by Laboratory Construction.

NEW BOSTON EXCHANGE PRESIDENT—The new president of the Boston Grain & Flour Exchange received congratulations from the retiring president following the annual election held recently. John J. Field (left), A. S. MacDonald Commission Co., Boston, is the new president. He succeeds Robert E. Gubbins (right), Union Grain Co., Boston.

ATTEND DOUGLAS SALES MEETING—Salesmen from 12 sales districts throughout the U.S. and personnel from the home office gathered in Kansas City recently for the annual national sales meeting of the Douglas Chemical Co. The meeting this year also marked the 40th anniversary of this Kansas City firm which produces and sells agricultural chemicals and fumigants for grain sanitation purposes and insect control. In addition to the various training and information sessions, the meeting featured the premier showing of the company's new film, "The Hungry Horde," which is the story behind Tetrakote, a new liquid grain protectant developed by the company.

Those attending the four-day event were (left to right): Front row—D. G. Farmer, advertising manager; Joe L. Kirk, director of sales and advertising; W. C. McCaslin, executive vice president; Norman P. Burk, Research Institute of America; John Owens, Research Institute of America; Barney Mahoney, sales manager, and Paul Smith, district manager. Middle row—Ed Keefe, district manager; Ward A. Graham, technical director; Bob Luthy, district manager; Fred Klemp, The Carter Co.; August Collis, district manager, and J. H. Sund, controller. Back row—Jim Avery, The Carter Co.; Bob Byrd, district manager; Harry Bostron, district manager; Paul Crawley, district manager; M. H. Johnson, district manager; John Collins, district manager, and Charles Dougherty, district manager.

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Rations Fed During Periods of Stress Need Higher Vitamin Content

Vaccination, worming, castration, extremes and sudden changes of temperature, and disease symptoms like fever, diarrhea and poor appetite—all these situations increase the vitamin requirements of swine. Any high-level antibiotic ration used to guard health during stress should contain therapeutic vitamin levels . . . especially the B vitamins in amounts several times those supplied by regular well-formulated feeds.

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NO. 54—RIBOFLAVIN MIXTURE
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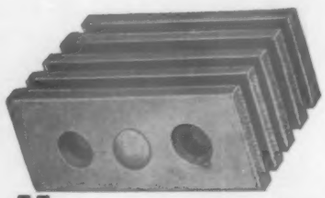
for grinding grain were slow, arduous jobs, often powered by human energy. An ingenious device was this foot-driven pestle which pounded whole grains to bits in a stone mortar. The end result was crude and uneven with hull and chaff mashed in with the meal.



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J. J. Patterson, Jr. William T. Bess, Jr.

APPOINTED—Union Bag & Paper Corp. has announced the appointment of J. J. Patterson, Jr., as director of multiwall bag sales. A member of the organization since 1936, Mr. Patterson has been associated with the multiwall bag division since its inception. Prior to his new appointment he served as field sales manager. At the same time the company announced the appointment of William T. Bess, Jr., as assistant director of multiwall bag sales. Mr. Bess joined the company in 1950 and served most recently as southeastern district manager of the multiwall bag sales division.

Sleeping Sickness in Horses, Mules in S.E.

WASHINGTON — Numerous cases of infectious equine encephalomyelitis (sleeping sickness) were found in 1955 among horses and mules in five southeastern states that reported no cases of the disease in 1954, the U.S. Department of Agriculture says. Disease build-ups occurred also in two other states of the region.

While nation-wide incidence of the disease remained about the same as in 1954, when a thousand-odd cases were reported, some 35 states—10 more than in 1954—suffered losses in 1955 from equine sleeping sickness, or brain fever as it is popularly known.

More than four fifths of animals in the Southeast reported infected in 1955 died, compared to mortality of about one third of 1954 cases reported from all over the nation.

It is believed that the high mortality in the Southeast from this disease during 1955 was due to prevalence of the more-lethal eastern type of E. E. viruses. Two different viruses —known as the western and eastern types—cause equine encephalomyelitis. Immunity following recovery from one virus, or vaccination against that type, does not protect an animal against the other type.

Southern states hardest hit last year were North Carolina, where no cases were reported to USDA in 1954; Louisiana and Florida, where the number of reported cases increased in 1955; and Georgia, South Carolina, Alabama and Mississippi, which reported no 1954 cases. Massachusetts and Rhode Island reported a number of cases in 1955 against none in 1954. Incidence of the disease increased also in some western states, including Wyoming, Colorado and New Mexico.

Animal disease specialists say the best way to prevent outbreaks of equine encephalomyelitis among horses is to vaccinate the animals—in areas where the disease occurs—well ahead of the most dangerous season, June through October.

REMODELING COMPLETE

COLUMBUS, GA. — Alaga Feed Cooperative, Inc., recently completed remodeling of its feed mill. A new building has been added to the front of the mill and additional feed storage space has been provided.

HIGH PRODUCERS

FT. COLLINS, COLO.—The Colorado A&M College dairy herd now includes two cows producing over 1,000 lb. of butterfat per year. College Ormsby Burke, the second in the herd to achieve the record, was bred and raised by the college dairy department. The cow as a four-year-old had a 365-day record of 27,055 lb. of milk and 1,005 lb. of butterfat.

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Kentucky Experiments With Simplified Laying Rations Reported

LEXINGTON, KY.—Researchers at the Kentucky Agricultural Experiment Station, Robinson Substation, conducted two experiments recently to determine if it would be practical in producing low-cost eggs to use a simple, cheap grain mixture along with a mineral supplement instead of the more complex type of ration, and if this plan would produce the type of pullet necessary for most efficient egg production.

The experiments were reported in the fall edition of Kentucky Farm and Home Science by John J. Begin, poultry husbandry department, University of Kentucky.

The production-bred New Hampshire chicks used were brooded under similar conditions, and for the first eight weeks all birds were fed a practical 20% starting mash, with grain being fed free-choice during the last two weeks of the brooding period. Then the birds were moved from the brooder house and placed on a natural or wild type range and divided into four groups.

Three groups were fed an 18% protein range ration and a mixture of whole corn and oats free-choice. The fourth received only the corn and oat mixture and steamed bonemeal. The feed for all birds was available in hoppers, and the birds had access to pasture at all times. They were housed in the laying house when approximately 20 weeks old, and then all birds were fed the same 20% protein laying mash and grain mixture free-choice.

Production Differences

In respect to production, Mr. Begin reported, the most significant difference between the birds was in the percentage of eggs laid during the high-egg price months of September through December. During that period the pullets which had received the mash and grain outlayed those which had received grain and bonemeal by 16.1% the first year and by 7.5% the second year.

At housing time the former outweighed the latter by 1.5 lb. The grain-bonemeal-fed pullets were underdeveloped and underweight when housed, and about two months were required for them to build up their body weight and to get into full production.

Once they were into full production they generally outlayed the pullets which had received mash and grain and also maintained a higher production rate for a longer period. The majority of their eggs came, however, in late winter and spring when prices were lowest.

As for yearly production, there was little difference between the two groups of birds, Mr. Begin reported. The first year there was a difference of 6.5% in favor of the birds that had received mash and grain, but this was reduced to less than 1% the following year. There was also little difference between them in respect to mortality and the amount of feed required to produce a dozen eggs.

Economically Unsound

These results indicate that although pullets can be raised at a cheaper feed cost by using a simplified range feed, this may not be economically sound because fewer eggs are produced during the months of high egg prices, according to the Kentucky researcher.

Better results might be obtained when simplified range rations are used if the birds had access to an excellent range, such as one consisting of ladino clover or other good legume, he stated.

Another problem studied at the same time at the Robinson Substation was whether production-bred New Hampshire pullets required a higher percentage protein concentrate than the usual 20% mash fed when the free-choice method was used.

Two groups of pullets that had been fed an 18% range mash and free-choice grain ration were selected and divided into two pens of approximately 100 each when they were about 20 weeks old. Both groups received a whole corn and oat grain mixture free choice, while one was fed a 20% laying mash and the other a 26% mash.

No advantage was shown in favor of the 26% mash during the two full laying years the experiment was conducted, Mr. Begin reported.

For the first year egg production was 55.8% for the birds getting 20% mash and 55.7% for those receiving the 26% mash. The second year's figures were 54.1% and 55%, respectively. The percentage mortality and pounds of feed required per dozen eggs were about the same. The pullets receiving the higher protein feed did consume more total protein, but it was not reflected in the results obtained, according to Mr. Begin.

$500,000 ELEVATOR FIRE

MAPLETON, MINN.—The Frank Bros. Elevator was destroyed by fire March 8 with the loss estimated at $500,000. The main building, two warehouses and a seed room went up in the blaze. About 40,000 bu. grain were stored in the building. Edgar Frank and his sons Wally and Del operate the business.

TO BUILD ELEVATOR

REMSEN, IOWA — The Farmers Cooperative Elevator Co. has announced plans to build a $160,000 elevator addition here with a capacity of 250,000 bu.

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Only NFZ gives your customers double-action. NFZ effectively prevents or controls outbreaks of coccidiosis and, at the same time, destroys harmful secondary invaders that can cause serious trouble in a flock. NFZ keeps death losses to a minimum . . . permits the development of a natural permanent immunity. This is especially important in replacement flocks.

2. **Greater Safety—**
NFZ's exclusive molecular structure prevents it from entering the tissue in measurable amounts. Thus NFZ is never a stress factor — can be fed to birds of all ages without adversely affecting growth, layability, fertility, shell texture or hatchability.
NFZ is non-toxic to all birds, even when fed at twice the treatment level. What's more, NFZ is harmless when accidentally consumed by livestock or pets . . . there's no danger of contaminating other feeds during the mixing process . . . and that's extremely important to you as a feed manufacturer.

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for both you and your customers. With double-action NFZ in their feeds, your customers raise healthier, more uniform flocks . . . get improved feed efficiency and bigger profits. You profit too. NFZ's wide margin of safety helps you simplify and speed-up your mixing process . . . earn more repeat business.

If you are not now using NFZ, isn't it time you took a new look at this time-tested product? For complete information address:

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ZT-6-2

The Feed Industry Faces —

A Challenge to Keep Pace

—With a Changing Agriculture

By Oscar Straube
Pay Way Feed Mills

EDITOR'S NOTE: American agriculture is one of the fastest changing industries in the world, and, as an integral part of it, the feed industry is confronted with a great challenge to keep pace. This is pointed out in the accompanying article by Oscar Straube, president of Pay Way Feed Mills, Kansas City. The article is from a talk by Mr. Straube at the recent Midwest Feed Manufacturers Assn. convention. The theme of the convention was "trends," and Mr. Straube set the stage for the discussions by pointing out such trends as greater specialization and efficiency in production of beef and pork and milk and eggs, as well as poultry meat. He discussed the feed industry's obligations in the changing times. He also commented on other trends, including more financing, bulk feeds and production of medicated feeds.

v v

There are many things to talk about in this feed industry. And one of the most remarkable of these is the fact that this unknown giant could grow to such tremendous size—ninth in the nation as an industry—and still be so little known by the public at large, and for that matter, even little known by many of its own customers. Perhaps one of the principal reasons for this is that we are not a consumer goods industry, such as motor cars or radios, whose end products are purchased as such. Ours is a service industry, working for agriculture.

We are helping to produce better and cheaper meat, milk and eggs for the tables of the world—a herculean task performed with vigor and dispatch by a husky giant. This, in time, will bring us recognition.

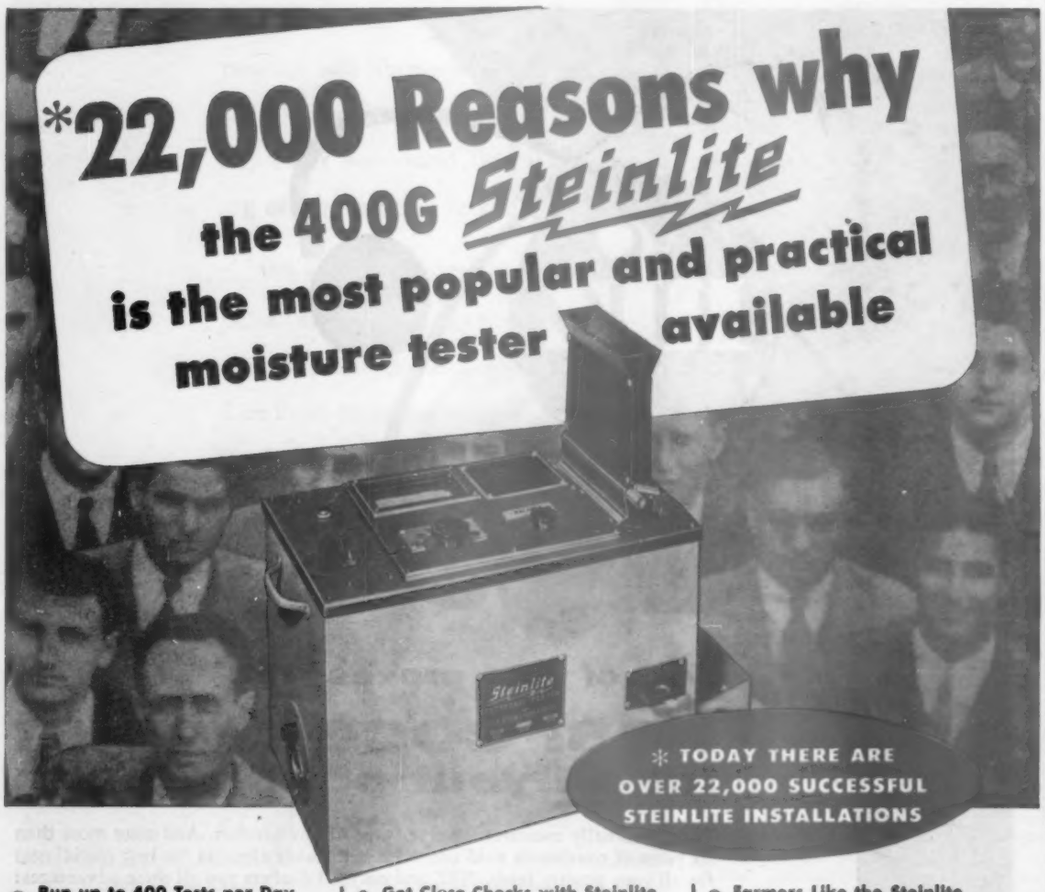
As a service industry we cannot always be the master of our own destiny, because we cannot always control the trends our industry will take. We must serve the livestock farmer and the poultry raiser in the manner in which they want to be served. Therefore, the trends which are developed in the livestock and poultry industry will tend to guide many of our future activities.

What are some of those trends? And what may be their effect on our industry? The small family farm, with its small flock of chickens, 10 or 20 milk cows and a few hogs, is disappearing. That is not startling news in itself, because we have all heard much of this in recent years. It is significant, however, to remember that the feed industry, in the Midwest in particular, was built on that kind of market. Our sales policies, advertising themes and methods of distribution were aimed toward mass selling for this type of buyer.

The majority of our business continues to come from him, and a good percentage of it undoubtedly will come from him for a long time. However, the trend is now going away from that small buyer of various kinds of commercial feeds and is going towards larger producing units, where conversion and final dollar profits are figured to a fraction. The trend is away from those buyers who sought to buy a feed just because it was convenient, or those girls or women who went in to buy a print pattern, and from those who went out and bought feed from cousin Willie because he happened to have a job and could make a small commission.

Tremendous Challenge

This change is a tremendous challenge to our industry. It must be met by our being prepared to do a better job of individual selling, versus the mass type of selling we have been doing. We must be prepared to use every economy to make low cost con-



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We are getting very close checks here in Topeka, with a 400G on our moistures, and are very happy about it. We tried other testers but they didn't quite fill the bill so we returned them.
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With a record of 75% of our recent tests within .3% variation, and the remainder on the nose to show our farmer customers, you can see that I am a satisfied Steinlite customer.
C. M. Kerlin Elevator

Can Be Checked in the Field
Being able to check and adjust the 400G Steinlite without sending it to the factory saves time and keeps the tester in condition for accurate moisture tests at all times.
Jasper County Farm Bureau

Built-In Thermometer is Tops
We have always used Steinlite with excellent results. We particularly like the built-in thermometer in the 400G, and the new easy-to-read charts.
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Can Be Operated By Anyone
The 400G Steinlite is so easy to operate that any of our employees can operate it. It is also fast and efficient. We are very much pleased with it.
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A natural profit-maker with plenty of follow-up poultry feed sales. An exclusive with HONEGGER DEALERS.

BIG "H" FEEDS
Are tested and proved at Honeggers' 600 Acre Practical Test Farm. The superior results of Big "H" Feeds mean repeat orders and repeat profits.

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Honeggers' complete line of competitively priced, pre-built farm buildings are an extra "exclusive" profit plus for Honegger Dealers.

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Honegger Dealers can have equipment shipped prepaid with their cars of feed. Honeggers' full line of modern labor-saving equipment makes an excellent "door opener" for extra feed sales.

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BETTER FEEDS THROUGH RESEARCH

Some Day

You're Going to

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Why Not Today?

THE Borden COMPANY
FEED SUPPLEMENTS DEPARTMENT
350 Madison Avenue New York 17, N. Y.

version of feed into meat, milk and eggs.

These economies must be effected in every phase of our business—formulation, more efficiency in reducing cost of manufacturing and the perfection of distribution methods which will render quick, economical service to our feeder customers.

The trend to larger production units is taking place in the feeding of all classes of livestock and poultry. In some cases the trend to larger units is increasing and going beyond the farm to concentrated producing areas.

The first big scale transition of this nature has come in the production of broilers. The development of concentrated areas for broiler production has been phenomenal. These broilers have almost completely replaced the farm raised fryer that brought a lot of business to local feed dealers and farm area manufacturers. This business is now in the hands of specialists who are to be complimented for the magnificent job they have done.

However, all the broilers are not being produced in concentrated broiler sections. Recently there have sprung up many local producing areas where broilers are raised on individual farms in large units. The use of incidental labor, such as spare time of the farmer, the wife or the kids, makes these units an important factor—especially when markets are on a conversion basis. Could this be a new trend away from concentrated areas of production?

As you know, the turkey industry has also been on a large unit basis. Therefore, it may be said that the feeding of turkeys as well as broilers is in the hands of the specialist.

More Specialization

Might it be that this will be followed by the specialist producing our meat, milk and eggs?

Here is a challenging thought. For many years we have had the large egg producing units on the east and west coasts. Now we hear of the big cage layer plants being started in many areas. Within the last fortnight, I visited a cattle feeding plant made to handle 30,000 head. I know of an operation in this area which has 700 brood sows. Such units are stiff competition for the smaller feeder and producer.

This means that whether broilers, eggs, milk, beef or pork are produced by large concentrated units, by medium size farm units or by the small mixed farming operation, feed conversion and good management practices are going to be primary factors in the success or failure of the individual operator. By-guess and by-gosh methods have no place left in the production picture. The trend toward more careful buying of feed for economical, known results is to be intensified.

Along this line, an eastern dairy scientist thinks that all dairy cows will be fed on a feed conversion basis within five years. This is quite a departure from our present way of feeding in the Midwest at least, for many dairymen are still buying the biggest sack at the lowest price.

The use of stilbestrol in cattle feeds has pointed up the conversion factor. It has helped to make feeders more conscious of their daily gains per animal and of the amount of feed required to make those gains. Shoveling the corn to hogs and cattle is a wasteful practice which larger feeders cannot afford. Yet the smaller feeder might find it quite expensive per animal unit to acquire the scale of competing equipment necessary to obtain the proper installation for a successful operation.

Better Dealers

What does this trend toward large buyers and toward greater emphasis on efficiency of feed conversion mean to the feed dealer? It means that the trend is toward larger and better informed dealers. It is toward dealers who are better financed and dealers who offer a real constructive service to the feeder.

Successful feeders of the average size will have from $25,000 to $100,000 of capital investment in their operation. It may not be clear of debts, but that much capital investment will be required. Such a man is not apt to take business advice and counsel from a wagon operator. Since these individual feeders will be larger, they will require and will demand closer servicing on general management, disease control and good business practices. Our experience shows that the larger the feeder, the more demanding he is. I think we have all had that experience. This will require a higher type individual to sell him, to service him and to counsel him—a higher type individual than many of us have thought was necessary in the past. In this, I refer to the feed manufacturer's salesmen and to the dealer alike.

It seems to me the dealer has a definite and permanent part in this picture for today and for the future. The selling and servicing of the feed at a retail level is not a manufacturing function.

Now there are other important trends in our industry of which we are all cognizant. I can mention only a few here. Therefore, I shall refer to more financing, to distribution of bulk feeds, and to the production of medicated feeds. They appear to me as being important, yet secondary to the changes in distribution to which I have referred.

The change from small units of production on the farm to larger units will require more money, which in many cases the feeder may not have.

Nutritionists! Mill Managers! Mill Operators!

Now—your ANSWER in one bag!

Solve problem of wastage...time loss...space shortage...through

PETER HAND'S STANDARD PREMIX PROGRAM

Convenient and economical. Each batch-size 5- or 10-lb. package provides Vitamins, antibiotics and DPPD to fortify one ton of high-quality feed

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Peter Hand Grow & Lay
Peter Hand Grow-Lay-Breeder
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You will have better quality control and less worry about the quality of your feeds with Peter Hand Standard Premixes. Eliminate dangerous under fortification and costly overfortification because Peter Hand Standard Premixes provide the correct fortification for every feed.

Only the highest quality, full potency vitamins and other feed additives are used in Peter Hand products to assure maximum compatibility, stability and biological availability.

Why not let the Peter Hand Research Staff, Laboratory and Research Farm give you these *economies and product control* with its know-how and experience. Use Peter Hand Standard Premixes—products of "Progressive Nutrition"

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TRY OUR NEW
Potomac Oyster Shell
FOR POULTRY

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Short of Warehouse Space ..... Try Our Truck Loading Service

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PAPER PLAIN OR PRINTED
TRUCK COVERS
TWINES
MAX KATZ BAG CO.
INDIANAPOLIS, IND.

B. A. Lucius

SALES AGENT — The B. A. Lucius Co., Ft. Worth, Texas, has been appointed southwestern sales agent for the feed ingredients department of the phosphate chemicals division of International Minerals & Chemical Corp., Howard F. Roderick, vice president in charge of the division, has announced. The company's territory will include Texas, New Mexico, Mexico and western Louisiana. The B. A. Lucius Co. was formed by Mr. Lucius in 1955 to handle grains, proteins and feed ingredients for feed manufacturers throughout the Southwest. Mr. Lucius had a background of more than 10 years in the feed business with Universal Mills, Ft. Worth.

Thus a greater extension of credit will be required. The feeder, though, will be a business man accustomed to giving financial statements and keeping accurate records of his operation. He should be a better credit risk and in most cases should get his money from the local bank. Our salesmen and our dealers should be of the caliber that can go to the banker and help work out these credit arrangements for the feeder.

Bulk feed selling appears to me as being purely a matter of economics. Is it cheaper, will it save labor? Recently I talked to two men from the Pacific Coast who have been handling bulk feed for some time. One thought it a good idea, the other thought it uneconomical. Most of us have or will put ourselves in position to furnish feeds in bulk and see how it goes in our own particular area.

The trend appears definitely toward more medicated feeds for preventive and treatment feeding. At the present time, I understand there are about 25 additives available, and, as one drug manufacturer put it, "this is only the beginning." The feed industry has opened a complete new field of volume business for the drug houses. They are amazed at its possibilities and are leaving no stone unturned to reap this golden harvest. They promise us great things for the future from the work that is now in progress. We must be ready at all times to take their approved products and use them for the benefit of our feeders without delay.

American agriculture is one of the fastest changing industries in the world. We, as an integral part of it, are confronted with a great challenge to keep pace. We must continue to improve the efficiency of our formulation, production and distribution. We must improve our own and our dealers' organizations to service our feeders better. We must be prepared to offer them what they want and what they need to produce livestock and poultry products economically and at a profit.

Through the service the feed industry has rendered American agriculture, this unknown giant of modern industry, is fast becoming known as a vibrant, dynamic force in the overall American economy. But to us, it is still only youth, strong and vigorous and headed for large increases in tonnage and a greater measure of benefits to those we service.

"Rubber Tire Rustlers" Stealing More Cattle

Seems as though cattle rustling is getting to be more of a problem. Recent reports from Kansas and Wyoming tell of "rubber tire rustlers" who present many more difficult problems than were faced by authorities in early west.

In Wyoming, J. J. Smith, special investigator for the Wyoming Stock Growers Assn., said there has been a recent increase in cattle thefts in his state.

In Kansas, cattlemen at the annual convention of the Kansas Livestock Assn., focused attention on a revival of old-time cattle rustling in the western part of the state. George F. Andrews, president of the association, said that in 1955, 487 head of cattle were rustled in western Kansas. That number, he said, might seem small to the cowpunchers of the days of Wyatt Earp (whose activities are now being portrayed on television), but it is an unusually high number for modern times.

Mr. Andrews urged a county-by-county brand inspection system in order to help halt the modern day cattle rustling. He said rustlers would have a hard time disposing of their loot if there were a requirement for bills of lading issued by county brand inspectors.

Distributed in Minnesota, North and South Dakota and Western Wisconsin by:

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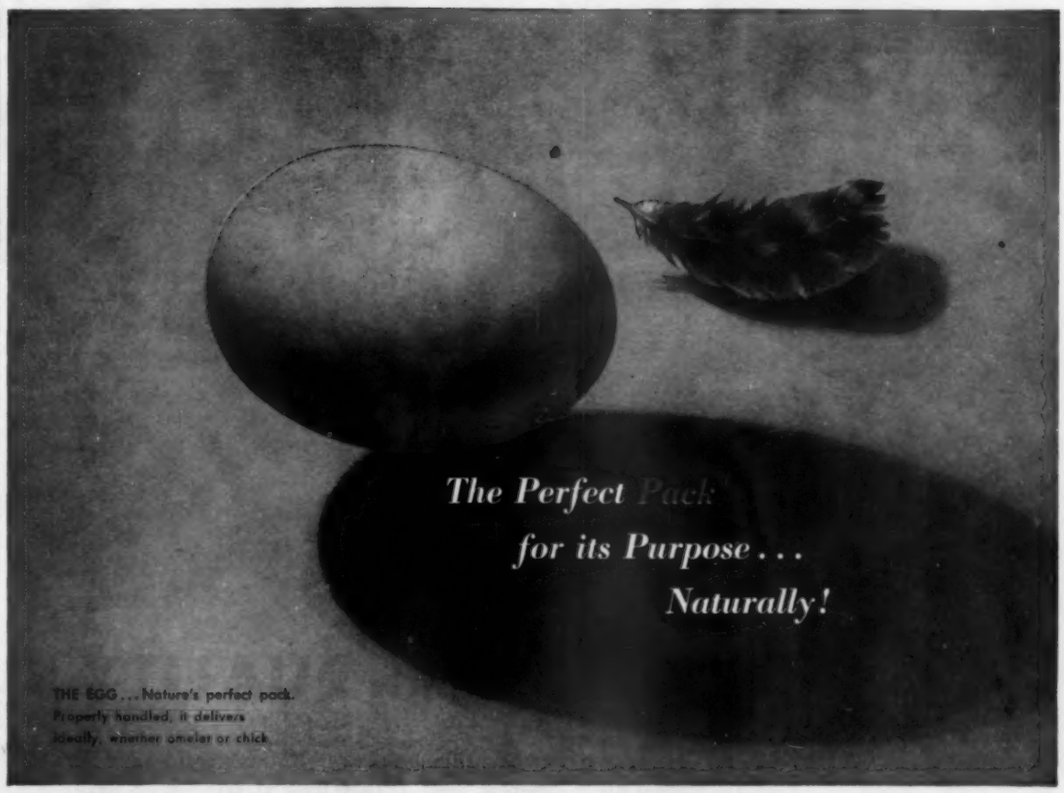
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THE EGG . . . Nature's perfect pack.
Properly handled, it delivers
ideally, whether omelet or chick.

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Hammond Multi-Walls

- Constant, dependable supply due to completely integrated operation from forest trees to fine kraft Multi-Wall bags.
- Fast, reliable delivery assured by four strategically located plants:
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HAMMOND BAG & PAPER COMPANY, INC.

Division of Hudson Pulp & Paper Corp.

GENERAL OFFICES: WELLSBURG, W. VA.

INCREASE Your "Per Bag" Profit!

$ YOUR BRAND $

Mix Your Own Feed Brand with

BROWER *Whirlwind* **FEED MIXER**

Many feed dealers earn up to $1.50 profit per bag by mixing their own brand of feeds with the BROWER MIXER. The extra profits soon pays for the mixer. The "Whirlwind" mixes perfect blend in about 10 minutes — gives years of trouble-free service. Above and below-floor models. 5 sizes for mixing 700 to 4000 lbs. per batch. Write for details and prices.

BROWER MFG. CO. 484 N. Third St. Quincy, Illinois

World's Largest Selling Mixer!

Brood Sows Do Well On Pasture in Tests

LEXINGTON, KY.—Kentucky researchers, in reporting on recent experiments with putting brood sows on good pasture, point out that their work indicates that pasture can be more fully utilized and will return greater economic advantages when grazed by brood sows than by any other class of hogs.

C. E. Barnhart and T. W. Cathey of the University of Kentucky animal industry department, reporting in an issue of Kentucky Farm & Home Science, say that by making maximum use of pasture for his brood sow herd, and putting the more expensive concentrates into growing pigs, many hog producers in grain deficit areas can become more competitive with hog growers in grain surplus areas.

In their experiment, the Kentucky researchers evenly divided 20 brood sows at breeding and placed in either a field of approximately one acre of Balbo rye or a dry lot of the same size. The rye had been cross drilled at the rate of 4 bu. acre in August and had produced a good heavy growth when the sows were turned in on it the first of November.

The sows were hand-fed twice a day a well balanced complete mixed ration. A simple mineral mixture was self-fed both groups of sows. The daily amount of feed fed each group of sows was regulated so that the sows on rye and those in the dry lot gained about the same during the gestation period.

The sows grazing the rye pasture farrowed an average of 9.1 live pigs at a total fed cost per sow of $24.15 while the dry lot sows farrowed an average of 8.4 live pigs at a total feed cost of $30 a sow.

Feed Saved

On the basis of the total feed cost per sow, the Kentucky researchers say, the acre of Balbo rye saved $64.35 worth of feed. That the rye provided valuable nutrients for the brood sows having access to it is suggested by the fact that they farrowed 0.7 of a pig more per litter than the others.

For further study of the use of pasture by brood sows, 20 bred sows were divided equally and placed in two fields of a legume mixture of alfalfa and Ladino clover. Each field was 1.3 acres in size. The sows were all mature and had been bred about 20 days. They remained on pasture until they were due to farrow. One group was fed 2 lb. of a complete mixed ration and the other group was fed 4 lb. of the same ration each day. All sows were self-fed a simple mineral mixture.

Sows on 2 lb. of feed daily farrowed an average of 9.4 pigs compared with 9.9 pigs for sows on the 4 lb. mixture. Total feed cost per sow was $6.68 for the light ration and $12.74 for the heavy ration and the feed cost per live pig was 71¢ for the 2 lb. ration and $1.29 for the 4 lb. ration.

Although the reproductive performance of the sows fed the greater amounts of feed was slightly better than that of the other group of sows, both groups farrowed very satisfactory litters, the Kentucky men stated. It was noted that the sows fed 2 lb. of feed each day farrowed a higher percentage of strong pigs and a smaller percentage of medium and weak pigs than did the sows fed 4 lb. of feed daily.

It is apparent from these data, the Kentucky men state, that good pasture can replace an economically important amount of grain and supplement needed by the brood sow during gestation.

Max Winnett

JOINS ECLIPSE—Max Winnett recently joined the sales force of Eclipse Feeds, Inc., Highland, Ill. He will travel southeastern Illinois and northern Indiana for the company. His experience includes a number of years in the feed, grain elevator and hatchery businesses. Mr. Winnett lives in Greenup, Ill.

BOSWORTH COMMISSION CO.
(BROKERS) Boston Grain & Flour Exchange Bldg. BOSTON, MASS.
! SELL THROUGH US ! BUY THROUGH US !
FEED PRODUCTS
GRAIN PRODUCTS
A. WARE BOSWORTH

VALUE and QUALITY

These two members of the Spencer Kellogg team have in mind quite different ideas as they look at samples of flaxseed at the Minneapolis Board of Trade.

Howard Scheu, seed buyer, is concerned with the value of flaxseed on the commodity market. This is his problem: we must obtain first-class seed under conditions that permit it to be processed and sold on terms attractive to our customers.

David Atlas, works manager of the Minneapolis Mill, is interested in the basic properties of the seed itself and its contribution to the quality of SPENCER KELLOGG'S OLD PROCESS LINSEED OIL MEAL.

For the feeder who wants the finest conditioner there is no replacement for SPENCER KELLOGG'S OLD PROCESS (expeller) linseed oil meal with not less than 3½% of the natural fat left in. Its famous quality is the result of the team work of many experienced people such as Mr. Scheu and Mr. Atlas, as well as the best seed and the surest control of quality in processing.

SPENCER KELLOGG MEAL SALES OFFICES ARE LOCATED AT:
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Manufacturers and Suppliers of
EXPELLERS
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COLUMBIA SOFT PHOSPHATE
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LOW COST
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COLUMBIA PHOSPHATE CO. PHOSPHATE PRODUCTS

Gives you

More Profit

from your Poultry Feeds

DR. SALSBURY'S

Polystat

WORTH More because it DOES More

POLYSTAT in your feeds *does more* for *you!* It is palatable, mixes well . . . is safe and effective. Simplifies your medicated feed program . . . multiple benefits reduce the flock service required. Makes feeds easier to sell because it's widely advertised and . . .

POLYSTAT has been proven by practical profit-wise poultry men on millions of broilers and turkeys. Plan to get more profit from your poultry feeds with POLYSTAT. Send for special feed manufacturers prospectus.

POLYSTAT *does more* for your broiler and turkey raiser customers, too . . . helps them:

- **PREVENT COCCIDIOSIS**
- **PREVENT WORMS** (tapeworms and large roundworms)
- **PREVENT HEXAMITIASIS** (in turkeys)
- **PREVENT BLUECOMB** (in turkeys)
- **PREVENT PULLORUM** (in chickens and turkeys)
- **PREVENT TYPHOID** (in chickens and turkeys)
- **STIMULATE GROWTH** (even with antibiotics in the feed)
- **IMPROVE FEED EFFICIENCY** (Average, 9.6% faster growth on ¼ lb. less feed per lb. live weight)
- **GET BETTER COLORING** (yellower skin, redder combs, better feathering)

DR. SALSBURY'S **3-Nitro** IMPROVES STARTING, GROWING, LAYING MASHES

Chicks develop quicker, pullets lay up to 15 days sooner . . . on feeds containing 3-Nitro. Hens have better development, added vitality to lay as many as 12 extra eggs per bird. Widely advertised, proved conclusively on field tests. Write for feed manufacturers bulletin on 3-Nitro. *Ask for data on 3-Nitro for pig feeds too.*

DR. SALSBURY'S LABORATORIES, Dr. SALSBURY'S Charles City, Iowa

Cyanamid Announces Specific Antibiotic Plan for Swine Feed

NEW YORK — The American Cyanamid Co., manufacturer of Aureomycin chlortetracycline, recently announced that it is offering new specific recommendations on the use of the antibiotic in swine feeds to promote growth and suppress disease.

A Cyanamid spokesman said this is the first time that such a company has offered farmers specific suggestions on how to use antibiotics to promote growth and suppress losses from atrophic rhinitis, infectious enteritis and other swine diseases.

Dr. Sterling Brackett, director of animal industry applications for the company, said the recommendations are the result of a survey of numerous experiments, laboratory tests and field trials. He said that the recommendations will be included in company advertising to the farmer and that many feed manufacturers will print the recommendations on tags for feed containing Aureomycin.

The decision to make the recommendations, he said, was made after the Food and Drug Administration approved the company's claim that the use of Aureomycin at specific levels in swine feeds would permit the animals to make good weight gains even though infected with atrophic rhinitis. He said use of the antibiotic in feeds can substantially reduce loss due to the disease.

Dr. Brackett said the antibiotic functions by suppressing "sub-clinical diseases," enabling the animals to show better gains, feed efficiency and health.

The specific recommendations call for pigs to receive 1.5 mg. of Aureomycin daily per pound of body weight until they reach 75 lb. If there are no indications of disease at that time, level is to be reduced to .5 mg. daily per pound of body weight. If there are indications of disease, continuation of the 1.5 mg. level is recommended until the animals are sold.

In preparing the feeds, the company recommends adding 100 grams of the antibiotic per ton of complete feed until the animals reach 35 lb. From 35 to 75 lb., the amount added may be reduced to 50 grams. From 75 lb. to market, the recommended level is 20 grams per ton providing there are no indications of disease.

Increase Shown in N. C. Feed Tonnage

RALEIGH, N.C.—The North Carolina Department of Agriculture reports that the state's feed tonnage for January was 86,514, compared with 80,038 tons a year earlier.

The total volume for the July-January period of the 1955-56 fiscal year was 650,588 tons. This represents an increase over the tonnage of 621,505 in the corresponding period of the 1954-55 fiscal year.

Donald B. Simmons, 61, Bemis Associate, Dies

MINNEAPOLIS — Donald B. Simmons, 61, associated with Bemis Bro. Bag Co. at Minneapolis for nearly 40 years, died March 16 of injuries received in an auto collision Feb. 21. Mr. Simmons was engaged in sales and executive work with the company.

A head-on auto collision near Minneapolis Feb. 21 caused injuries fatal to Mr. Simmons.

Mr. Simmons joined Bemis in 1916 after attending Amherst College and the University of Minnesota. After a two-year period in the U.S. Army during World War I, in which he rose to the rank of first lieutenant, he rejoined Bemis and remained with the firm until his death. His father, Chester Simmons, was the first manager for Bemis at Minneapolis, serving from 1881 to 1917.

Surviving are the widow, Kathryn Simmons, three daughters, and a son.

Minneapolis Exchange Honor Set for April 10

MINNEAPOLIS—The Minneapolis Grain Exchange will be saluted April 10 on the 75th anniversary of its founding. The honor will come during a luncheon meeting which will be sponsored by the Minneapolis Chamber of Commerce at the Nicollet Hotel here.

Main speaker will be Boyd Campbell, president of the U. S. Chamber of Commerce.

George Wilkens, exchange secretary, will speak on "A Tour Through the Grain Exchange" and James F. Mullin, Leval & Co., Inc., will also be on the program.

Master of ceremonies will be Cedric Adams, Minneapolis newspaper and television personality.

More valuable than ever before...

The Northwestern Miller

1956 ALMANACK

will contain the first new government census figures released since 1947!

This year, more than ever before, the new edition of The Northwestern Miller ALMANACK will be of greater value and significance to readers and users . . . AND TO ADVERTISERS! After many long years of "statistical drouth" the milling, grain, feed and related industries are looking forward to the availability this year of new government census figures — the first since 1947!

Bringing these important industry statistics and analyses together in one volume for the first time anywhere, the 1956 ALMANACK to be published with the June 26 issue of The Northwestern Miller will be more than ever the most-used industry reference book.

More Valuable to Readers

The 1956 Northwestern Miller ALMANACK will be more valuable to readers because it will be a one-volume source for all of the important industry statistics and records. It will include the latest reports made available by the Bureau of the Census from the 1954 Census of Manufactures, the first such census of the industry since 1947! In addition, of course, it will include the valuable private statistical information that has always made The Northwestern Miller ALMANACK the most important single source book in the industries it serves.

More Valuable to Advertisers

It is obvious that the 1956 ALMANACK will be more thoroughly read, used, referred to and retained than almost any previous edition. *To advertisers* this means that the 1956 ALMANACK offers an unequalled opportunity to present their advertising messages in a long-lived source book to which the industry turns for information before many decisions are made. The 1956 ALMANACK offers you a medium of unusual value in making it possible to place *your* story of *your products and services* on the reference shelves of the industry.

LATER ADVERTISING DEADLINES

The publication date of the 1956 edition of The Northwestern Miller ALMANACK has been changed to make certain that this year's ALMANACK will contain the complete reports being released by the Bureau of the Census. Usually published in April of each year, the ALMANACK this year will be published with the June 26 issue of The Northwestern Miller. This change allows these later advertising deadlines for the 1956 ALMANACK:

APRIL 16
(If proofs are required)

MAY 1
(If complete plates are furnished, or no proofs are required)

ACT NOW to insure best position. Send in your space reservation immediately and have ample time to prepare your advertising material. Use the space order form below, or contact the office of Miller Publishing Company nearest you!

MAIL COUPON TODAY

SPACE RESERVATION ORDER
for 1956 ALMANACK Advertising

Advertisements are available to you in the following sizes and dimensions, at the rates indicated:

	Size Width		Size Depth	Price per insertion
Full page	7	x	10	$100.00
⅔ Page	4½	x	10	70.00
½ Page	7	x	4⅞	
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		or		
	4½	x	2⅜	21.00

Special Positions—2nd and 3rd covers—$25.00 extra; 4th cover—$30.00 extra. Color red required.
Extra Colors—Red .....$ 25.00 per page or less
Other than Red .....$100.00 per page or less
Bleed Off Charge—$10.00. Plate size 8⅝x11⅛, trim size 8¼x11¼ inches.

ALMANACK, Advertising Dept.
The Northwestern Miller
P.O. Box 67
Minneapolis 1, Minn.

Please accept our order for an advertisement..... inches deep by.....columns wide to appear in the June 26, 1956, ALMANACK edition of The Northwestern Miller.

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ADDRESS .....
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Vitamin Antibiotic PRE-MIX
"PLUS" for swine, poultry, cattle. Also custom pre-mixes.
Carroll Swanson Sales Co.
620 Des Moines Bldg., Des Moines, Iowa
Distributors and Sales Agents Wanted
Protected Territories.

JOIN SUCCESSFUL DEALERS!
SELL Nutrena FEEDS

Marion MIXERS
ELIMINATE GUESSWORK IN MOLASSES MIXING!

Complete accuracy in Molasses mixing bag after bag! One mixer For All Your Mixing Needs. Mixes Both Dry and Molasses Feed.
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George R. Walter | Newell Wright | Tom Marlow

Central Soya Names Plant Managers

FT. WAYNE, IND. — New plant managers for Central Soya Co. at Gibson City, Ill., and Memphis, Tenn., have been named by C. I. Finlayson, production manager.

In charge of the Gibson City operation will be George R. Walter, who was previously plant manager at Memphis. He replaces Newell Wright who has been promoted to assistant manager of the company's barge and trucking division with headquarters in Ft. Wayne. The new Memphis plant manager will be Tom Marlow, who was personnel director at Gibson City prior to his new assignment.

Mr. Walter joined Central Soya in 1947 at their Harrisburg, Pa., plant. He was transferred to Decatur, Ind., in 1948, named assistant plant manager at Decatur in 1951, and promoted to Memphis plant manager in 1954. He is a graduate of Purdue University with a degree in mechanical engineering.

Mr. Wright came with Central Soya in 1953 as Decatur plant personnel director. In 1955 he was named Gibson City plant manager.

Mr. Marlow joined the company in 1951 as an engineering draftsman. In 1954 he was promoted to Gibson City personnel director with additional duties in handling special production problems.

Fred C. Lovitt Forms Own Firm at Memphis

MEMPHIS—Fred C. Lovitt, partner in L. B. Lovitt & Co., has announced his resignation from the firm and the founding of Fred Lovitt & Co.

With offices at 415 Cotton Exchange Bldg., the new firm will conduct cash and futures brokerage business in soybean oil and meal and cottonseed oil and meal.

The new concern is a member of the Memphis Board of Trade, the Memphis Board of Trade Clearing Assn. and the American Soybean Assn.

INCLUDE *Jacobson* IN YOUR PLANS for Profitable Custom or Commercial Grinding

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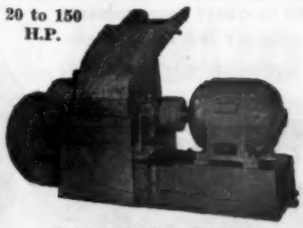
"UNIVERSAL"

20 to 150 H.P.



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Jacobson "Master" type of instant remote screen change controlled by simple push-pull movement of control rods.

55 to 140 H.P.

"MASTER"

Write for Bulletins and the name of your Jacobson Sales Engineer

JACOBSON MACHINE WORKS

46 Years of Continuous Service to the Feed Industry

1090 TENTH AVE. S.E. DEPT. M MINNEAPOLIS 14, MINN.

★★★★★ 5 STAR SALESMEN ★★★★★

Featured in Wayne $10,000 Contest

5 STAR SALESMEN—The internationally famous Wayne Quintuplet calves are helping Wayne Feed Dealers everywhere set new sales records on Wayne Calf and Dairy Feeds as well as all other Wayne Feeds.

Dropped prematurely, weighing less than one-fourth normal, these Quints were saved and raised on Wayne Calfnip and the complete Wayne Calf Feeding Program. Weight gains have been amazing! Besides appearing on the popular TV Show, "I'VE GOT A SECRET," the four heifers and a bull are now starring in the Wayne $10,000 *"NAME OUR BROTHER"* Contest.

Let this spectacular promotion build new store traffic and extra business for you. Write for full details today to Allied Mills, Inc., Fort Wayne 1, Indiana.

8-1833

Blackstrap Molasses · BETTER FEEDING · QUALITY SERVICE Since 1918

SYMBOL of Dependable Service

For nearly four decades we have built a reputation for dependable service to the feed industry . . . a reputation based on prompt shipments of top quality molasses at lowest prices.

Why not contact us about your molasses requirements? We welcome the opportunity to serve you.

NATIONAL MOLASSES COMPANY

Executive Offices: ORELAND, PA. Phone: Livingston 8-5900 (PHILA.)

Frank D. Instone Joins St. Regis Sales Staff

NEW YORK—St. Regis Paper Co. has announced the appointment of Frank D. Instone as assistant sales manager of packaging equipment of the multiwall packaging division. Mr. Instone was previously a branch sales manager for the Richardson Scale Co., Clifton, N.J., for 10 years.

In his new position, he will assist in the sale of multiwall bags and packaging equipment to the feed industry in the Midwest. He will have headquarters at the St. Regis office in Chicago.

Mr. Instone attended Greenville (Ill.) College and Illinois State University, Normal, Ill. He is an associate member of the American Institute of Electrical Engineers, and is also a member of the Ohio Grain & Feed Dealers Assn.

MILL HAS GRAND OPENING

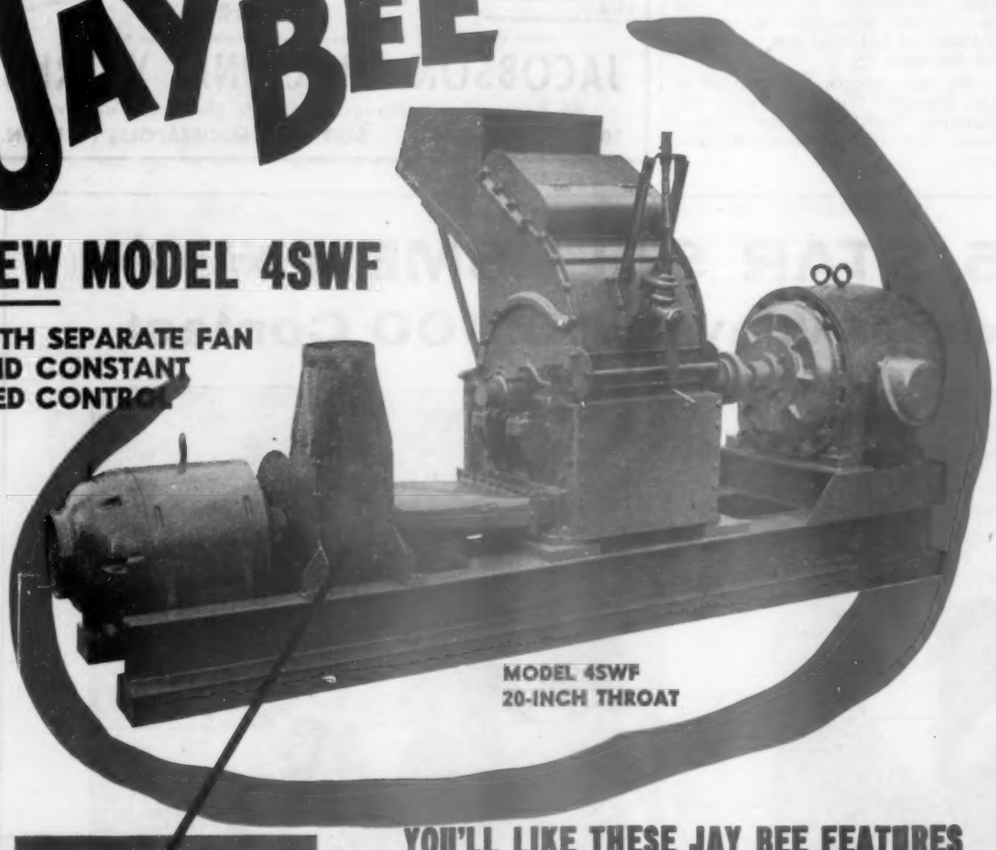
LANCASTER, WIS. — An open house recently marked the opening of the new feed mill of the Lancaster Cooperative Farmers Union here. The new mill includes grinding, mixing and molasses blending machinery. Ed C. Vesperman is manager. The mill will handle the Master Mix Feed line.

Announcing a New Step in Jay Bee Progress

JAY BEE

NEW MODEL 4SWF

WITH SEPARATE FAN AND CONSTANT FEED CONTROL



MODEL 4SWF
20-INCH THROAT

SEPARATE FAN

New design provides separate eight-inch high - efficiency fan powered by separate 25 H.P. Motor. Ideal for installations where distances exceed 60 ft. from mill to collector. Available on both Jay Bee Models SW (Grinding) and W (Heavy Grinding).

YOU'LL LIKE THESE JAY BEE FEATURES

- CONSTANT FEED CONTROL—This JAY BEE method of suspension grinding holds stock in contact with hammers by weight of stock, giving cooler, more uniform grind. Available with remote control assembly.
- MILLS TO FIT EXACT NEEDS—Three sizes of mills available in wide range of horsepower for custom grinding, general mill grinding and extra-heavy grinding. Precision engineered for rugged duty.

J. B. SEDBERRY, INC.

FRANKLIN, TENN., and Leading Cities

A hotel manager received this letter: "Have you suitable accommodations where I can put up with my wife?"

◆ ◆ ◆

In a gay and carefree mood a man telephoned a friend at 2 o'clock in the morning. "I hope I haven't disturbed you," he said cheerfully.

"Oh, no," the friend replied. "That's quite all right. I had to get up to answer the phone, anyway."

◆ ◆ ◆

"I understand your husband has been ill. What's he doing for his condition?"

"Well, his doctor prescribed a shot of rye whiskey and two aspirins every four hours."

"Oh, really? How is he?"

"Ten weeks behind on the aspirin and two years ahead on the rye."

◆ ◆ ◆

In the town there was much festivity. Down the street came a beautiful white horse. On the horse was Lady Godiva riding side saddle, and all around the people were shouting, "Hooray for our side!"

◆ ◆ ◆

Everything is love and kisses, 'til your girl becomes your Mrs.

◆ ◆ ◆

The crystal gazer was addressing one of her clients: "You will be poor and unhappy until you are 40."

"And after that?"

"You'll get used to it."

◆ ◆ ◆

Arriving home from a party one hot July evening, Mrs. Roeser confronted her husband. "I'll never go to another party with you as long as I live," she fumed.

"Why," asked Frank, amazed.

"You asked Mrs. Jones how her husband was standing the heat."

"Well?"

"Why, her husband has been dead two months."

SINASON - TEICHER INTER AMERICAN GRAIN CORP.

EXPORTERS

GRAIN FEEDS FLOUR

Wire Us Your Offerings

Telephone HAnover 2-8690 Teletype NY 1-3288

New York Office—50 Broadway

Fleischmann's F·I·D·Y. IRRADIATED DRY YEAST

RICH IN VITAMIN D FOR FOUR-FOOTED ANIMALS

Outlook for Beef Cattle Industry Said to Be Improved

KIT CARSON, COLO. — The president of the American National Cattlemen's Assn. has issued a cautiously optimistic report on the outlook for the beef cattle industry.

Don C. Collins, Kit Carson rancher, said that he learned in consultation with federal officials that the breeding potential of the national beef herd is on the decline for the first time since 1948, according to U.S. Department of Agriculture figures.

The combined number of beef cows and yearling heifers declined 122,000 head last year, he said. An increase of 99,000 beef cows more than offset a reduction of 221,000 yearling heifers.

Mr. Collins pointed out that the reduction is small, only .37%, but said it should be contrasted with the average annual increase in beef cows and heifers of 2,135,000 head over the previous five years.

Also encouraging, said Mr. Collins, is the fact that the total female bovine population—all dairy cows and heifers and all beef cows and heifers—showed a net reduction during 1955 of 606,000 head, which compares with an annual average increase of 2,116,000 head during the preceding five years.

Mr. Collins said that it is apparent that extra cattle numbers and tonnage of beef will have to be marketed before the industry achieves the desired balance of supply with demand.

Broiler Council Reports Good Program Support

RICHMOND, VA. — The National Broiler Council is continuing to gain solid nationwide support from members of the broiler industry for its advertising, merchandising, consumer education and market research program, officials of the organization said this week.

The outstanding success of the enrollment campaign in Maine was revealed by its leader Don Corbett, Waterville, who commented, "Firms representing an annual chick, feed and processing volume for 30,000,000 broilers have already signed up, which covers nearly 85% of the yearly production in our state."

Jesse Jewell, president of the National Broiler Council, reported that the Arkansas Poultry Federation's board of directors recently voted unanimously to become state affiliate in Arkansas to the council.

More than 800 firms in nine additional broiler producing states are participating in the broiler council program, Mr. Jewell stated, and support continues to grow in these areas, also. During February, 35 new agreements were received from these states, which produce some 50% of the nation's broilers.

The announcement came as the council prepared to launch preliminary activities to its spring campaign, built on the theme "It's Cook Out Time With Barbecued Broilers." Advertising in food trade publications began this month, it was stated, to let the food retailers of the nation know of the spring campaign, and merchandising work will begin shortly.

The campaign will be spearheaded by full page color ads in Life and Colliers, sponsored by the council, and will be supported by advertising and merchandising efforts from some six related food groups. The actual consumer campaign will begin in May.

Named President

APPLETON, WIS. — Andrew Liethen has been named president and general manager of the Liethen Corp. He has been active in the feed manufacturing business in Appleton since 1920.

California Turkeys To Get Promotion

SACRAMENTO, CAL.—An amended marketing order for the promotion of California turkeys has been issued, effective April 1, according to the California Department of Agriculture.

Under its terms the maximum assessment which the board can recommend is 2¢ a bird on mature birds and 1¢ on young birds.

The order authorizes the Turkey Promotion Advisory Board, subject to approval of the director of agriculture, to develop plans for advertising, sales promotion and market development activities.

LA BUDDE
MILWAUKEE, WIS.
MALT SPROUTS
BREWERS GRAINS
DISTILLERS GRAINS
BEET PULP
AND 44 OTHER FEEDS

SOME OF THE MOST VALUABLE "INGREDIENTS" are not LISTED ON THE VITAMELK LABEL!

"SPECIAL" feed engineering services are *standard* at DAWE'S

Dawes Vitamelk provides full fortification in one package. Assures the finest, up-to-date practical fortification for each class of livestock and poultry feed.

The vitamins, antibiotics, trace minerals, and unidentified factor components used in Vitamelk are all of the highest possible quality.

Buy single-package Vitamelk fortification and center responsibility for *both* fortification and formulation in a basic producer devoted *exclusively* to the feed industry.

You simplify your buying, storing and manufacturing operations, *reducing* overhead while *increasing* quality and profit margin.

But that's only *part* of the Vitamelk story . . .

As a user of Vitamelk, you have at your disposal—*without cost*—all of Dawe's valuable Feed Engineering Services.

Dawe's Formula Audit Bureau will analyze your feeds and develop exclusive new formulas to meet specific requirements. Dawe's Nutritional Information Service will keep you up-to-date on new scientific discoveries which you can use in manufacturing and merchandising your feeds. And Dawe's assumes the continuing responsibility for the application of new developments to your brand.

Why settle for less than the best? Mail the coupon today and learn more about these and many other advantages of Dawe's Vitamelk program that can improve your feeds and reduce your work load.

Dawe's Laboratories, Inc.
4800 S. Richmond St., Dept. FS-36 Chicago 32, Illinois

Offices and warehouse stocks: Belgium—13, Courte rue des Claires, Antwerp. Mexico—Sierra Leona 735, Mexico 10, D. F.

Please send me full information about Dawe's Vitamelk program and Feed Engineering Services.

NAME
FIRM
ADDRESS
CITY STATE

WORLD'S OLDEST AND LARGEST SPECIALISTS IN VITAMIN PRODUCTS FOR FEEDS

BAGS TO HOLD YOUR PRODUCT
DESIGNS THAT SELL IT!
COTTONS • BURLAPS • MULTIWALLS
PERCY KENT BAG COMPANY, INC.
Kansas City • Buffalo • New York

OLD PROCESS SOYBEAN MEAL and CAKE
45% Protein—5% Natural Fat
GUARANTEED
No adulterations • Clean
Nutritious • Palatable • Fragrant
A Dependable Supply
Truckloads or Cars
COSHOCTON FARMERS EXCHANGE COMPANY
Coshocton, Ohio

SPECIFY
Columbia Calcium
COLUMBIA QUARRY CO.
1007 Washington Ave.
ST. LOUIS 1, MO.

☆ Classified Ads ☆

Classified advertisements accepted until Wednesday each week for the issue of the following Saturday.
Rates: 15¢ per word; minimum charge $3.25. Situations wanted, 10¢ a word; $1.50 minimum. Count six words of signature, whether for direct reply or keyed care this office. If advertisement is keyed, care of this office, 20¢ per insertion additional charged for forwarding replies.

Classified advertising rate not available for commercial advertising. Advertisements of new machinery, products and services accepted for insertion at minimum rate of $9 per column inch.
All Want Ads cash with order.

HELP WANTED

SALES MANAGERS DO YOU NEED cockerels for Free Chick Days? Shipping four times weekly. We can supply you. Welp's Hatchery, Bancroft, Iowa.

SALESMAN, INCREASE YOUR INCOME, sell complete line of veterinary products, to feed dealers and hatcheries, excellent commission. Address Ad No. 1472, Feedstuffs, Box 67, Minneapolis 1, Minn.

SALESMAN (2)—PREFER MAN TRAINED by Purina or other aggressive merchandising feed manufacturer to cover established Michigan or Wisconsin territory. This is an excellent position. Address 1490, Feedstuffs, Box 67, Minneapolis 1, Minn.

EXPERIENCED DOG FOOD SALESMAN with a following among feed stores, to sell nationally distributed dry dog feed. Complete line. Many territories open. Commission and expense allowance. Ad No. 1349, Feedstuffs, Box 67, Minneapolis 1, Minn.

OUTSIDE SALESMAN WANTED

Position pays $5 ton plus chick and equipment bonus. Two-week vacation with stock purchase opportunity. Aggressive, Midwest custom mill with excellent equipment and bulk facilities. Address 1582, Feedstuffs, P. O. Box 67, Minneapolis 1, Minn.

FEED SALESMAN

Needed traveling man calling on jobbers and wholesale feed dealers to handle Shellbuilder Crushed Oyster Shell for poultry on brokerage basis. Territory Ohio, Indiana, Illinois, Nebraska, Wyoming, Montana, North Dakota, Iowa. Provided you are qualified we will send man to help you get started. Send full particulars to:

SHELLBUILDER COMPANY
620 Melrose Building
Houston 2, Texas

MANAGER, FARM SALES DIVISION

Southern California mill, with a quality feed and a good reputation for over 25 years, needs man with poultry and animal nutrition, and successful sales management background to supervise 12 to 14 men calling on commercial poultrymen and stockmen within a 200 mile radius of Los Angeles. Your communication can be in confidence. Address Ad No. 1545, Feedstuffs, 612 Board of Trade, Kansas City 5, Mo.

SALESMAN OR FACTORY REPRESENTATIVE WANTED

Sell proven products through Feed Dealers, Elevators and Hatcheries. This is a sound money-making proposition, offered by a reliable well-rated firm expanding its sales program. Don't let this pass you by. Your territory may be available. Replies treated strictly confidential. Write in care of Ad No. 1611, Feedstuffs, Box 67, Minneapolis 1, Minnesota.

SALES MANAGER

Medium sized AAA 1 midwest feed manufacturer wants aggressive man to direct and manage sales force selling a complete dealer franchise built around top quality feeds. You are probably now employed supervising salesmen in some capacity, you have hired and trained salesmen, you have a successful tonnage building record. Age 30-45. If qualified, send full particulars and recent photo to Ad No. 1444, Feedstuffs, Box 67, Minneapolis 1, Minn. All replies treated strictly confidential.

HELP WANTED

WANTED — TRAFFIC MANAGER FOR growing grain and feed manufacturing operation in western Ohio. Transit experience helpful. State full qualifications and salary requirements. Ad No. 1594, Feedstuffs, Box 67, Minneapolis 1, Minn.

ASSISTANT SALES MANAGER FROM MEDIUM or large mill to handle sales for eastern feed mill. Sales 50,000 tons. You need M.A. or B.S. in nutrition, have successful tonnage building record, have hired and trained salesmen and formulated feeds. Age 34-45. Send complete resume, present salary, and snapshop to Ad No. 1583, Feedstuffs, Box 67, Minneapolis 1, Minn. Your confidence respected.

DISTRICT SALES MANAGER FOR RAPIDLY expanding manufacturer of veterinary products, antibiotic, vitamin, mineral feed supplements and insecticides. Territory: Iowa, Illinois, Indiana, Michigan. Need man with confidence in his sales ability. Must be cooperative, have initiative, hard worker, capable of opening new dealers and developing new territory. Commission basis with drawing account. Sales Manager, Box 208, Caldwell, Ohio.

SALES MANAGER

Midwest manufacturer of dry dog food and other feed specialties looking for aggressive man 30-45 years old to manage sales force for a long established company with headquarters in Chicago. Basis salary plus over-write. Wonderful opportunity—earnings limited only by ability. Should have experience handling and training salesmen and the know-how to establish distributors. Replies treated strictly confidential. Address 1598, Feedstuffs, P.O. Box 67, Minneapolis 1, Minnesota.

FUMIGATION MEN WANTED

Rapidly expanding Fumigation Division needs men experienced in actual fumigation work. Parent company long a leader in grain storage operations. Because of successful techniques and results in own storage facilities, company has been named distributor for Liquid Cyanogas (H. C. N.) for large mid-western area. New division offers ambitious men with fumigation experience opportunity to grow with it. Men must be cooperative, have initiative, be hard workers and willing to travel. Please give full qualifications in first letter. State salary desired. All replies confidential.

Dannen Fumigation Division
DANNEN MILLS, INC.
Box 429 St. Joseph, Mo.
Distributors of Liquid Cyanogas (H.C.N.)

MACHINERY FOR SALE

CHAMPION MOBILE GRINDER AND MIXer units. Champion Portable Mill Co., 2105 Como Ave. S.E., Minneapolis 14, Minn.

EUREKA KNIFE GRINDER, LIKE NEW, $425 with motor; $375 less motor. McLaughlin, Ward & Co., Jackson, Mich.

FOR SALE — GENERAL ELECTRIC MOtors, 75 and 100 H.P., 3,560 R.P.M., 2,300 volts. Ad No. 1589, Feedstuffs, Box 67, Minneapolis 1, Minn.

MIXER — NEW HORIZONTAL RIBBON Type 100 cu. ft. capacity, with or without power. One rebuilt S. Howes Horizontal Mixer. McLaughlin, Ward & Co., Jackson, Mich.

HERE'S A BUY—REBUILT 27 SCHUTTE Mill, 40 H.P. motor, starter, new collector, 15 H.P. blower, motor, starter. Ready to roll, $1,500. Jacobson Machine Works, 1090 Tenth Ave. S.E., Minneapolis 14, Minn.

NEW AND REBUILT UNION SPECIAL Sewing Machines. Styles 14500-F & H and 80600-E, also complete suspended units. Style 80600-H tape closure sewing heads with new five-foot power conveyors. Delivery at once. E. C. Covell, 302 Overbrook Rd., Baltimore 12, Md.

FOR SALE—ONE NO. 17 AJACS MILL screen is 15" wide; one Schutte Mill No. 27; one Bauer Model 216 mill screen is 16" wide; all mills attractively priced; were in service when replaced with larger size mills. Write or phone Harold Attebery, Delaware, Ohio.

MACHINERY FOR SALE

WHIRLAWAY AIRBLAST CAR LOADERS. J. E. Hagan Mill Machinery, Jefferson City, Mo.

WHEN YOU ARE IN THE MARKET FOR new or used mill machinery, electric motors or any other equipment, write J. E. Hagan Mill Machinery, Jefferson City, Mo.

WRITE US, WE HAVE WHAT YOU NEED in supplies for feed and flour mills. If it's new or used, buy it from Hughes, Wayland, Mich.

FEED MIXER, 1-TON CAPACITY, GUARanteed first-class throughout, 5 H.P. motor drive. Ad No. 8774, Feedstuffs, Minneapolis 1, Minn.

HEMCO CAR MOVER, SANDING ATTACHment and extras, $4,800; new, used one year, excellent condition, make offer. O. W. Martin, Doughboy Industries, Inc., New Richmond, Wis.

SIX USED WOODEN EGG CASE SET-UP machines. Manufactured by Food Machinery Corp. Equipped with ½ H.P. motors. Good operating condition. Will sell at fraction original cost. Seymour Foods, Inc., 609 Quincy, Topeka, Kansas.

THREE 150 KVA WESTINGHOUSE TYPE SE, Style 79 ML 42 2300, voltage 115-230-460, 60-cycle transformers. Serials 3148385, 3148386, 3148387 oil type cap. 117 gallons each. Saunders Mills, Inc., Toledo, Ohio; Phone TA 2428.

SPECIAL SALE — HAMMER MILLS, motors, attrition mills, corn cutters, graders, shellers, elevators, barley pearlers, 150 H.P. Cummins diesel engine, crumbling rolls, sizes 7x14 to 9x30, all steel flakers. Write Hughes Engineering Co., Wayland, Mich.

FOR SALE—(4) SPROUT-WALDRON RIBbon Mixers, 336 cu. ft. (12,000 lb.) working capacity. Rotary dryers, 3'x25'; 4'x30'; 4'6"x40'; 5'6"x50'; 6'x40'. Also hammer mills, pulverizers, bucket elevators, screw conveyors, bulk-flo drag conveyors, etc. Perry Equipment Corp., 1403 N. 6th St., Philadelphia 22, Pa.

FOR SALE—ENCLOSED MOTORS, RICHardson Scales, truck scales, hammermills, oat crimpers, horizontal and upright feed mixers, sewing machines, elevator legs, screw conveyors, molasses mixers and pellet mills. J. E. Hagan Mill Machinery, Box 874, Jefferson City, Mo.

CLOSING OUT LOCAL FEED MILL — Master Model California Pellet Mill with starters, cooler, crumble roll and grader, all with motors; Union Special Bag Closers; Vi Brox Bag Packer; Model H Jay Bee Hammer Mill with motor and drive; new No. 40 Webster Single Power Shovel; 9x18 and 9x24 Two-Pair High Roller Mills; S. Howes Corn Cutter with 10 H.P. motor; No. 4 S. Howes Standardized Receiving Separator, with motor and drive; 18" Beall Aspirator with fan; Vertical and Horizontal 1-ton Mixers; Wood and Metal Elevators, Hoppers, spouting, conveyors, motors, reducers, feeders, bag trucks, etc. General Mill Equipment Co., 2021 Pennsylvania, Kansas City, Mo.

FOR SALE

1 400 H.P. G.E. Motor 585 rpm. with 15 groove pulley, oil current breaker complete with starter.
11 Nordyke Rolls (five 30", two 36", one 24", three 18").
1 5 H.P. Motor with Falk speed reducer.

Plus many other items of milling, elevating and packing equipment. Your inspection invited.

FORT SCOTT GRAIN & FEED COMPANY
11 North Clark Phone 132
FORT SCOTT, KANSAS

MACHINERY WANTED

DUBLE TAPE SEWING MACHINE AND Gyro-Whip Sifter wanted. State price and condition. Marshall's Feed Mills, Horseheads, N. Y.

WANTED—LATE MODEL USED 100 H.P. Sprout-Waldron or California 100 Century Pellet Mill. Address Ad No. 1613, Feedstuffs, Box 67, Minneapolis 1, Minn.

WANTED TO BUY — RICHARDSON scales, bag closing machines and other good mill, feed and elevator equipment. J. E. Hagan Mill Machinery, Jefferson City, Mo.

BABY CHICKS FOR SALE

BABY CHICKS—AS HATCHED OR SEXED —Five popular breeds and one hybrid. Quality - Quantity - Service. Wholesale prices. Milford Hatchery, Liberty Road, Randallstown, Md.

Use Feedstuffs WANT ADS for RESULTS

BUSINESS OPPORTUNITIES

LEASE A PORTABLE FEED GRINDER— Low capital investment needed. Midland Mill Co., 10 Homedale, Hopkins, Minn.

FOR SALE — 25% OWNERSHIP — TWO large alfalfa dehydrator plants located in heart of irrigated northern Colorado. Investment or working interest. Total price $38,000. Contact J. P. Dubberley, 660 Wadsworth, Denver 15, Colo.

WANTED—RENT SMALL FLOUR, FEED mill, privilege buying. Work for salary or profit sharing basis. Address Ad No. 1491, Feedstuffs, Box 67, Minneapolis 1, Minn.

WANTED TO BUY FEED STORE, LOcated in Southeast, with 80 or more tons of formula feed business per month. Address Ad No. 1547, Feedstuffs, Box 67, Minneapolis 1, Minn.

COMPLETE 150,000-BU. GRAIN ELEVAtor on main line, Pennsylvania R.R. at Laurel, Delaware. Center of the Del-Mar poultry section and soybean and corn area. Write Delaware Soy Products Corp., P. O. Box 143, Belleville, New York.

Our Exclusive Business
COUNTRY ELEVATORS and FEED MILLS
When you want to buy or When you want to sell
See or Write
MID-WEST BUSINESS EXCHANGE
Halbert C. Smith Plymouth, Ind.

AVAILABLE
Advertising Agency Experienced in Feed Advertising & Sales Promotion

An aggressive, seasoned advertising staff and account man (raised and still living on a farm) available to ambitious feed manufacturer. **Agency will be key wheel in your sales organization. Able, willing and ready** to work with you in all of the following: Market and distribution research, publicity and public relations, sales promotion, dealer development, dealer advertising policies and planning, literature and feeding program development, and **all the other facets** of merchandising, advertising and selling of feed. We know how to set up dealers and then move your feed!

This agency, with three midwestern offices, is one of the largest in the farm field with considerable feed advertising experience.

Let's exchange data and team up for a mutually advantageous relationship such as you've never dreamed of! We have positive results to prove it as well as some of the biggest names in the feed business as references. Write in full confidence and give us details. You'll receive an immediate response with no obligation whatsoever.

Address Ad No. 1573, Feedstuffs, Box 67, Minneapolis 1, Minn., for an immediate reply.

SITUATIONS WANTED

FEED DIVISION MANAGER AND SALES manager wants change — 35 years old, Iowa State College graduate and willing to locate anywhere. Presently running a 24,000-ton set-up. Ad No. 1607, Feedstuffs, Box 67, Minneapolis 1, Minn.

NUTRITIONIST, PH.D., 12 YEARS' EXperience in developing, formulating and testing feeds, nine years with present employer, seeks position as nutritionist or in technical sales service. Ad No. 1597, Feedstuffs, Box 67, Minneapolis 1, Minn.

FIELD SALES MANAGER (32), 8 YEARS' farm equipment experience, hiring, training, organizing sales personnel. Salary secondary to opportunity. Write L. L. Campbell, 1105 W. Central, Princeton, Ill., for portfolio or interview.

A.H. GRADUATE, FOUR YEARS EXPERIence in selling of quality feeds, would like to make connection with company as livestock specialist or selling of livestock feeds. Have poultry experience. Prefer West Coast or Midwest area. Consider other. Ad No. 1609, Feedstuffs, Box 67, Minneapolis 1, Minn.

ADVERTISING MANAGER — ARE YOU looking for a top notch, hard working advertising man? Young, Chicagoland farm products promotion executive seeks to relocate elsewhere and produce quality program for company or agency. Now directing half million dollar all media budget. B.A. degree. Address Ad No. 1610, Feedstuffs, Box 67, Minneapolis 1, Minn.

FEED MILL SUPERINTENDENT, EXTENSIVE experience in all phases of mill operation, desires supervisory position, also as assistant in larger mill. Will locate anywhere. Address Ad No. 1578, Feedstuffs, Box 67, Minneapolis 1, Minn.

Resigns Position

SEATTLE, WASH. — Roy Weaver, for the past 10 years sales manager for feeds and feed ingredients, Wilbur-Ellis Co., Seattle, has resigned from that firm and has purchased the North Coast Chemical and Soap Works, Seattle.

Grain and Other Concentrates Fed to Milk Cows on Farms Where Milk or Cream Was Sold and on Farms Where Milk Was Produced for Home Use Only, By States, 1955*

State and division	On farms where milk or cream was sold: Fed per 100 lb. milk	On farms where milk or cream was sold: Fed per cow lb.	On farms where milk or cream was sold: Total fed 1,000 tons	On farms where milk was produced for home use only: Fed per cow lb.	On farms where milk was produced for home use only: Total fed 1,000 tons	On all farms where milk was produced: Fed per cow lb.	On all farms where milk was produced: Total fed 1,000 tons
Maine	33	2,020	98	1,420	12	1,940	110
New Hampshire	26	1,630	49	1,210	2	1,620	51
Vermont	28	1,710	239	1,250	2	1,700	241
Massachusetts	28	2,000	112	1,350	3	1,970	115
Rhode Island	30	2,350	20	1,490	1	2,280	21
Connecticut	30	2,090	109	1,420	3	2,060	112
New York	30	2,150	1,447	1,440	23	2,130	1,470
New Jersey	33	2,610	189	1,610	5	2,570	194
Pennsylvania	34	2,330	1,040	1,580	37	2,290	1,077
North Atlantic	31.0	2,162	3,303	1,487	88	2,138	3,391
Ohio	31	2,130	859	1,520	35	2,100	894
Indiana	31	2,070	582	1,480	22	2,040	604
Illinois	31	2,030	753	1,460	32	2,000	785
Michigan	29	1,960	777	1,410	21	1,940	798
Wisconsin	25	1,790	2,057	1,150	7	1,780	2,064
E. N. Central	27.9	1,933	5,033	1,447	117	1,918	5,150
Minnesota	27	1,730	1,180	1,260	13	1,720	1,193
Iowa	32	1,870	917	1,440	29	1,850	946
Missouri	25	1,680	657	1,320	61	1,640	718
North Dakota	28	1,400	241	1,060	14	1,380	255
South Dakota	28	1,280	180	960	10	1,260	190
Nebraska	29	1,580	312	1,150	19	1,550	331
Kansas	31	1,580	342	1,270	26	1,550	368
W. N. Central	30.0	1,672	3,829	1,251	172	1,648	4,001
Delaware	34	1,990	32	1,380	2	1,940	34
Maryland	34	2,170	238	1,500	14	2,120	252
Virginia	31	1,640	244	1,160	58	1,520	302
West Virginia	29	1,320	85	980	30	1,210	115
North Carolina	28	2,030	185	1,370	120	1,710	305
South Carolina	40	1,810	61	1,110	47	1,410	108
Georgia	45	1,860	139	1,240	103	1,530	242
Florida	74	3,920	282	1,750	30	3,510	312
South Atlantic	39.5	2,072	1,266	1,257	404	1,791	1,670
Kentucky	35	1,530	356	1,170	72	1,450	427
Tennessee	38	1,480	342	1,170	100	1,400	442
Alabama	44	1,680	122	1,230	128	1,420	250
Mississippi	41	1,270	192	930	102	1,130	294
Arkansas	39	1,450	158	1,090	73	1,310	231
Louisiana	44	1,320	120	810	50	1,120	170
Oklahoma	36	1,580	257	1,130	49	1,490	306
Texas	43	1,740	458	1,270	157	1,590	615
South Central	39.2	1,527	2,004	1,114	731	1,389	2,735
Montana	23	1,240	54	910	6	1,200	60
Idaho	19	1,330	138	890	6	1,310	144
Wyoming	22	1,180	20	820	3	1,120	23
Colorado	27	1,620	110	1,270	12	1,540	122
New Mexico	26	1,270	22	920	6	1,170	28
Arizona	22	1,710	35	1,100	3	1,640	38
Utah	22	1,550	72	1,080	4	1,510	76
Nevada	17	1,100	6	630	1	1,000	7
Washington	25	1,780	215	1,130	12	1,730	227
Oregon	27	1,660	152	1,060	9	1,610	161
California	23	1,990	815	1,160	16	1,960	831
West	23.3	1,737	1,639	1,068	78	1,689	1,717
U. S.	30.1	1,838	17,074	1,197	1,590	1,753	18,664

*Includes grain, millfeeds and other concentrates. Data are not entirely comparable with those for 1954 and earlier years which will be revised in a subsequent report.

Individual Feeds as Percentage of the Total Concentrate Ration Fed to Milk Cows in Herds Kept By Dairy Reporters, By States, 1955*

State and division	Corn, %	Oats, %	Barley, %	Wheat, %	Cottonseed meal, %	Cottonseed, %	Linseed meal, %	Soybean or s. b. meal, %	Gluten feed or meal, %	Wheat bran, shorts, %	Commercial mixed feed, %	Misc. other, %
Maine	..	6	..	..	..	..	..	..	1	..	94	..
New Hampshire	..	..	..	..	..	..	..	..	..	..	99	1
Vermont	1	1	..	..	..	..	..	..	1	..	93	4
Massachusetts	..	1	..	..	..	..	..	..	..	..	93	6
Connecticut	..	..	..	..	..	..	..	..	..	..	97	3
New York	8	14	1	1	..	..	..	1	1	2	65	7
New Jersey	14	6	4	1	..	..	..	1	1	1	59	13
Pennsylvania	30	23	5	2	..	..	1	2	1	2	31	3
No. Atlantic	13.8	14.0	2.4	.9	.1	..	.4	.8	1.0	1.8	59.5	5.3
Ohio	60	23	2	1	..	..	1	2	..	1	8	2
Indiana	63	23	1	..	..	..	..	3	..	1	6	4
Illinois	55	31	2	..	..	..	1	1	..	1	6	2
Michigan	45	35	3	..	..	..	1	3	..	1	6	6
Wisconsin	37	41	1	..	..	..	4	1	1	5	7	3
E. N. Central	48.2	33.1	1.3	.3	.2	..	2.2	1.9	.3	2.8	6.8	2.9
Minnesota	49	36	1	..	..	..	1	2	..	2	7	2
Iowa	59	31	..	..	..	..	1	2	..	1	5	1
Missouri	24	20	7	1	2	1	..	2	..	5	37	1
North Dakota	10	71	12	1	..	..	..	2	..	1	..	3
South Dakota	29	61	3	..	..	..	1	1	..	..	4	1
Nebraska	37	24	5	1	..	..	..	1	..	2	7	3
Kansas	16	21	9	..	2	..	..	2	..	8	18	24
W. N. Central	41.4	33.2	3.7	.4	.5	.1	.5	1.7	.1	2.6	12.0	3.8
Delaware	41	11	12	..	..	..	..	2	..	..	30	4
Maryland	33	14	11	..	1	..	..	2	1	4	29	5
Virginia	35	13	9	2	1	..	..	1	..	1	30	9
West Virginia	34	7	2	2	..	..	1	1	..	2	50	..
North Carolina	33	17	3	1	7	1	..	2	..	3	30	4
South Carolina	19	26	3	..	9	1	..	2	..	..	40	..
Georgia	20	16	..	..	8	1	..	1	1	1	41	11
Florida	5	1	..	..	2	..	..	1	..	2	40	49
So. Atlantic	23.4	11.6	4.8	.8	3.2	.3	.2	1.5	.3	2.0	36.6	15.3
Kentucky	61	4	2	..	..	..	..	4	..	2	21	5
Tennessee	49	12	2	1	5	2	..	1	1	2	23	2
Alabama	41	8	..	..	12	4	..	..	..	1	31	3
Mississippi	39	8	..	..	14	3	..	1	1	1	32	1
Arkansas	6	10	..	1	4	1	..	1	1	4	70	2
Louisiana	22	7	..	..	8	1	..	..	..	4	55	3
Oklahoma	8	25	4	..	5	1	..	1	1	9	29	17
Texas	16	14	..	..	7	1	..	1	1	5	45	10
South Central	31.8	11.7	1.6	.5	6.0	1.3	.2	1.3	.5	3.7	35.1	6.3
Montana	2	38	40	2	1	..	..	..	..	5	5	6
Idaho	1	39	26	9	..	..	..	..	..	2	17	6
Wyoming	2	28	40	1	1	..	..	..	..	1	19	8
Colorado	23	16	27	..	1	..	..	..	..	6	19	7
Arizona	2	1	28	..	8	3	..	1	..	..	43	..
Utah	1	10	48	5	1	..	..	..	..	3	28	4
Washington	1	10	4	..	..	..	..	..	..	2	77	5
Oregon	1	13	11	4	..	..	..	..	..	4	62	4
California	2	2	7	..	2	..	1	1	..	5	69	11
West	3.0	9.9	13.9	1.7	1.5	.2	.6	.6	.1	4.3	56.0	8.2
U. S.	33.0	23.1	3.6	.6	1.3	.3	.9	1.4	.4	2.8	28.3	5.4

*Based on reports of rations fed on May 1 and Nov. 1. Several minor states not shown separately are included in regional and U.S. averages.

CONCENTRATES FED TO MILK COWS

(Continued from page 11)

counts for only 7% of the total concentrate ration fed to milk cows. On the other hand, in New York, another leading dairy state but in the East, the formula feed percentage is 65. Thus, as may be calculated from the tables, New York actually represents a much bigger market for commercial mixed dairy feed than Wisconsin.

Discussing concentrate rations for milk cows, USDA pointed out that feeding of grain and concentrates in 1955 was at a record high rate of 1,758 lb. per milk cow. Feed rates, as may be seen from the table, vary in different areas, depending on practices and availability of pasture and roughage.

Farmers fed an average of 30.2 lb. of grain and concentrates per 100 lb. of milk produced in 1955, about the same as in 1954. The average cost of concentrates fed per 100 lb. of milk produced on farms selling milk or cream was 93¢ in 1955—down 6% from the previous year.

Home Grown Feed

Feeds grown on their own farms made up 52.1% of the grain and concentrate rations fed to milk cows by dairy reporters. This compared with 51.1% the year before. In the west north central and east north central regions, the proportion of home grown feeds averaged 72 and 78%, respectively. In other regions, home grown feeds were much less important. Individual states varied widely in proportion of home grown feeds, ranging from 93% in North Dakota to less than 1% in several New England states.

The average value per 100 lb. of grain and concentrates fed to milk cows in 1955 was $3.10, 6% below 1954. Values showed a wide range among different states.

Dairy product-feed price ratios in 1955 rose sharply from the low level of 1954 and encouraged heavier feeding. The milk-feed ratio averaged 1.28, compared with 1.19 the previous year.

USDA noted that dairy pastures during the 1955 season as a whole were only fair, as prolonged dry weather in some central sections resulted in some serious shortages of pasture feed.

Car Stolen, Wrecked

DES MOINES, IOWA—Peter W. Janss, executive secretary of the National Mineral Feeds Assn., Des Moines, had a first-hand experience with the current juvenile delinquency problem recently. Mrs. Janss parked the family car in the driveway at 9 a.m., and it was stolen. After an all-day search, police finally caught up with three 14-year-old boys who had wrecked the car in a ditch following an 80-mile-an-hour chase. The boys escaped with only bruises and the automobile was a total wreck.

REELECTED TO BOARD

OKLAHOMA CITY—B. D. Eddie, president and general manager of the Superior Feed Mills, Oklahoma City, has been reelected to the board of directors of the Consolidated Gas Utilities Corp.

Kraft Bag Promotes Ed Burgers, Jr.

NEW YORK—Ed Burgers, Jr., formerly sales representative in the St. Louis area, has been appointed sales promotion manager for Kraft Bag Corp., with headquarters in New York. His promotion was announced by F. L. Munger, vice president and sales manager of the company.

Mr. Burgers' duties include sale and promotion of the company's automatic open mouth bag filling machine, the "Kraftpacker," in addition to development of new business for multiwall shipping sacks manufactured by Kraft at its integrated plants at St. Marys, Ga., and Gilman, Vt.

St. Regis to Make Bags at Kansas City

NEW YORK—St. Regis Paper Co. announces that it will commence multiwall bag manufacturing operations at a new plant at Kansas City, Mo., early this summer. The plant is leased from the Southern Development Co. of Kansas City with option to purchase.

St. Regis will move into the plant about June 1. The company will operate bag manufacturing equipment consisting of two production units which will produce multiwall bags.

The modern 100,000 sq. ft. plant will permit St. Regis to provide fast service for its midwestern customers principally in the feed, milling and fertilizer industries, company officials said. Kraft paper for this converting operation will be supplied by St. Regis mills in Florida.

The new plant will supplement the production of other St. Regis bag plants throughout the U.S.

Production of Millfeed Decreases

Production of millfeed in tons for week ending March 23, and prior two weeks, together with season total of (1) principal mills in Nebraska, Kansas and Oklahoma and the cities of Kansas City and St. Joseph; (2) principal mills of Minnesota, Iowa, North and South Dakota and Montana, including Minneapolis, St. Paul and Duluth-Superior; (3) mills of Buffalo, N.Y. Production computed on the basis of 72% flour extraction.

	Southwest* Weekly production	Southwest* Crop year to date	Northwest* Weekly production	Northwest* Crop year to date	Buffalo† Weekly production	Buffalo† Crop year to date	Combined** Weekly production	Combined** Crop yr. to date
March 19-23	26,005	975,009	12,959	518,333	10,861	353,146	49,825	1,846,488
Prev. week	225,846		213,294		11,046		250,176	
Two wks. ago	25,875		13,978		10,564		50,417	
1955	24,262	856,533	12,339	611,050	8,995	406,518	45,596	1,873,901
1954	23,483	916,349	13,973	548,184	8,682	386,673	46,138	1,851,206
1953	21,951	933,422	13,821	586,631	10,055	487,775	45,827	2,006,829
1952	23,226	975,807	12,630	451,829	8,737	380,270	44,583	1,607,907

*Principal mills. **74% of total capacity. †All mills. ‡Revised.

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Pfizer's Agricultural Sales Up 20% in 1955

NEW YORK—The annual report of Chas. Pfizer & Co. for 1955, released recently, shows that contributing to the firm's 13% increase in consolidated sales for the year was a rise of 20% in the company's agricultural division sales.

Sales of $163,794,654 in 1955 for all the company's divisions set a new record and were well above the $145,238,625 sales in 1954. Net earnings rose from $15,200,871 to $15,326,967.

Common stock dividends were raised from $1.35 to $1.55 a share in 1955, the fifth consecutive annual increase.

The report points out that the increase of 20% in the agricultural division sales came "chiefly as a result of a stronger market position in the feed supplement field and the introduction of new products. Volume was increased in spite of price declines in the major antibiotic and vitamin feed supplements."

Vigofac, a feed supplement introduced at the end of 1954, contributed materially to the division's sales in 1955, the report states. It continues:

"Introduction of two growth-promoting supplements for beef cattle marked Pfizer's entry into this important market. One contains the hormone diethylstilbestrol and the second is a combination of this hormone and Terramycin. . . . The company began quantity shipments of both these supplements in the fall and anticipates that they will produce a substantial sales volume during 1956."

The report also points out that expansion of Terramycin supplement sales is expected with the opening of two new markets: the fortification of poultry feeds to improve egg production and the supplementation of cattle rations.

In reporting on expansion moves, the report states that an addition is planned for the Pfizer Terre Haute, Ind., plant which will more than double feed capacity. New branch offices and distribution centers, scheduled for completion in 1956, are being constructed in Portland, Ore., and Chicago.

EXPANSION PLANNED

LAYTON, UTAH—The James Morgan & Sons Feed Mill has announced plans to add a molasses mixer and four bulk feed bins to the mill. The work will be completed by June 1, said Vern Sandall, manager.

The Feed Man's Library

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LAYING FEED MARKET DATA

(Continued from page 1)

tion to feed is found in the information on rate of lay per bird.

Egg production per bird in larger flocks typically exceeds that in small flocks. Accordingly, USDA figures on rate of lay are being revised upward somewhat and consequently, egg production is being revised downward less than the number of layers.

A higher rate of lay in itself means a better rate of conversion of feed to eggs. It still takes a certain amount of feed to produce an egg, but, with a higher rate of lay, a smaller proportion of the feed consumed by layers is going for maintenance of the birds, and the over-all rate of feed consumption per dozen eggs is reduced.

A certain quantity of eggs can be produced by a smaller number of layers than former statistics indicated, and, with the better feed conversion rate, it takes less feed than formerly thought to produce the nation's egg supplies.

All of this, of course, means that the potential total market for formula feeds for layers may be smaller than was previously thought. Also, feed improvements and greater efficiency in use of feeds—as with high energy feeds—may contribute, as it has in other poultry operations, to a smaller tonnage to do the same job.

At the same time, however, the trend toward larger flocks and specialization may be expanding the demand for formula feeds, particularly modern, more efficient feeds.

Census Finding

The chief Census finding which is causing the revisions in statistics is this:

In October and November, 1954, the Census found, some 3.4 million farms in the U. S. had on hand some chickens four months old and over. This represented a decline of 19% from the total of such farms in the 1950 census. The age criterion set by the Census excludes most commercial broilers, which in 1954 were sold from 49,076 farms.

(Incidentally, the specialization in all agriculture is indicated to some extent in a decline of 11% in the number of all farms in the U. S. between 1950 and 1954. But the decrease in farms with chickens on hand is considerably greater.)

The 1950 and 1954 data on the number of chickens on hand are not strictly comparable because of changes in the time of year when poultry were enumerated. In the 1950 Census, the data were for April 1, while the 1954 data were for the day in October or November when the individual farm was enumerated. However, the 19% reduction between the two years is still of considerable significance.

Egg Statistics Change

The new data forced USDA to conclude that per capita egg consumption has been decreasing each year since 1951 instead of rising to new highs.

USDA is currently revising various poultry statistics, but it already has shown that per capita egg consumption in 1955 was 366 eggs, instead of a record high of 418 previously estimated.

The thing is that egg production had been overestimated before because USDA, in making its estimates, had not fully reflected the marked decrease in number of farms keeping chickens.

Revised data show that total egg production in 1955 was still at a new high of 59.5 billion, but this total is well under the previous estimate of 67.4 billion. While production has increased, population has increased more, bringing the reduction in per capita consumption.

The increases in total egg production have helped to bring an improving market for laying feeds, but the production is not as great as thought, and it has come from fewer layers than previously estimated.

Some of the other revisions being made in statistics may be seen in these figures: The number of hens and pullets on farms Jan. 1, 1955, formerly was estimated at 421.9 million; the revised estimate is 368.8 million. Eggs laid during the year per hen and pullet on farms Jan. 1 were formerly estimated at 160; the revised estimate is 161. The number of hens and pullets on farms Jan. 1, 1956, was originally estimated at 411 million; USDA's revised estimate is 359.7 million.

The unrevised estimate of average number of layers during the month of December, 1955, was 386.6 million; the revised estimate is 333.6 million. The unrevised estimate of eggs laid per layer during the month was 14.1; the revised estimate is 14.9.

Little Change Being Shown

While various poultry statistics are being revised, it should be noted that USDA still has some good sources of data, and revisions other than for layers and eggs probably won't be very extensive.

In general, USDA said, data which are best substantiated by non-Census check data, or those, such as for turkeys, which are least at variance with the Census, will be changed least. Accordingly, reports such as those of chickens and broilers raised, which can be related quite closely to the reports on hatchery production, are likely to be changed only slightly on a U.S. total basis. (For individual states, somewhat larger percentage changes are possible.) The hatchery reports will be revised only slightly.

Thus, the USDA reports on broiler chick production and placements, on chickens raised on farms for laying flock replacement and otherwise, and on turkey production will not show much revision and will remain as market guides for the feed industry essentially as they were. However, there may be some area or state changes.

As far as the Census data on chickens four months old and older are concerned, there were differences among areas. The largest reductions in number of farms reporting such chickens were 22% in the north Atlantic and western states, and the smallest decrease was 13% in the west north central states. This may indicate the greater degree of specialization and larger flocks in coastal areas as compared with midwestern areas.

ALFALFA APHID

(Continued from page 1)

Chrisman said. "If weather conditions are conducive and control efforts spring leaks, we could have a production disaster.

"Damage already done by the aphid in Oklahoma and Texas, plus the dry weather there, make it a certainty that the amount of the first cutting alfalfa dehydrated in those states will be below normal," Mr. Chrisman said. "It is still too early to tell what the results will be this year in Kansas and Nebraska because the plant is too small and weather too cold for full development of the pest. In some areas of northeastern Oklahoma much of the area newly seeded last fall has been wiped out by the insects."

The spotted alfalfa aphid was first thought to be the more familiar yellow clover aphid, a minor pest well-known in the U.S. But it soon was shown to be a new variety probably imported from the Mediterranean area.

In early spring of 1954 it was doing serious damage to alfalfa in the Rio Grande Valley of New Mexico. By May it was found in western Arizona and southern California and by the end of summer in Texas. Last year it appeared as far north as Sacramento in California and did heavy damage in Oklahoma and at some locations in Kansas. Late last year it appeared in some 28 counties in southwestern Nebraska.

The pest multiplies most rapidly at temperatures of about 100° but survives even as low as 5°. Rain has more effect than low temperatures in limiting the build-up to damaging numbers, which probably held back attacks in the Middle West the early part of last season.

On seedling stands the aphid has a toxic effect, only one aphid often killing a seedling plant. Mature stands have been reduced as much as 85% by heavy numbers.

Alfalfa Outlook Said Poor in Southwest

FT. WORTH, TEXAS—This is the worst of six years of drouth for dry land alfalfa in the far Southwest, the J. Paul Smith Co., Ft. Worth feed brokerage firm, reported March 29. The company cites current conditions in various parts of Texas as follows:

Brazos Valley — First cuttings around Hearne yielding 600 to 700 lb. meal (dry basis) compared with normal of 2,000 lb. Very dry.

Coastal Area West of Houston—Badly in need of rain. Some plants will have to shut down in a few days if no moisture is received.

North Central Texas — Around Sherman some alfalfa has been plowed up and other crops will be planted when rain is received. Around Vernon fall planted alfalfa looks very poor and some fields have been blown out by high winds.

All alfalfa in the Plainview, Texas, and Roswell, N.M., area is on irrigated land and will not be ready for cutting until the first week of May.

Aphid infestation is moderate to heavy in all of the alfalfa producing areas of Texas and Oklahoma.

The report quotes Howard Mann, Dallas alfalfa equipment distributor, who recently toured all of the leading producing areas of the Southwest, as saying the alfalfa outlook is the worst he has observed in 24 years.

NEW PURINA DEALER

LONG PRAIRIE, MINN. — Jerry Goplen has been appointed Ralston Purina Co. dealer here and has named his business Jerry's Feed Service. He plans to construct a new feed warehouse when weather permits.

Grain and Dry Bulk Storage Facilities For Rent

In the Most Outstanding Installation of Its Kind On the Eastern Seaboard

Bins and Tanks for bulk grain storage with total capacity of 1,000,000 bushels

These completely conveyorized storage units are in concrete bins, all under cover and sprinklered, and 10 steel storage tanks.

PLUS

a 420′ covered Pier with 27,300 sq. ft. floor space on the Kill van Kull, N.Y. Harbor, Pier 3 Constable Hook, Bayonne, N.J.

This Pier has every modern device for handling bulk cargos, such as 100 ton per hr. conveyors, 4 Sutorbilt Blowers, 2 continuous weighing scales rated at 100 ton per hr., fresh water and hydrants.

PLUS

Mill Building, concrete and tile block construction, 2 story, 34,000 sq. ft., ceiling height 20′.

The property is very modern in every respect, having been built in 1949. All buildings are sprinklered with 100,000 gals. emergency water tank, city water, modern fire fighting equipment and all utilities. Boiler Room has (3) 250 HP B & W Sterling Automatic Oil Fired Water Tube Boilers and (2) Sullivan 50 HP Air Compressors.

Lehigh, Jersey Central and Pennsylvania Railroad service the property

For further information and inspection appointment

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Exclusive Agents

INDUSTRIAL PLANTS CORPORATION

90 West Broadway **BArclay 7-4185** **New York 7, N.Y.**

THE FEED MARKETS

★ ★ ★ ★

Demand — Supply — Trends — Prices

Quotations on feed ingredients shown in these and adjoining columns are wholesale prices, per ton, bagged, for prompt delivery, unless otherwise noted. They are the latest quotations available from Feedstuffs correspondents and are not necessarily those in effect on date of publication. The prices represent fair average trading values and do not necessarily represent extreme low or high levels at which individual sales might have occurred. A descriptive summary of supply and demand factors prevalent in the feed market appears on page 2.

ALFALFA MEAL

Buffalo: Demand and supply fair; trend steady; $62, sacked, Boston.

St. Louis: Demand slow; trend lower; supply ample; dehydrated, 17%, 100,000 A $50.50 ton; suncured No. 1 fine ground 13% $42.50 ton, f.o.b. St. Louis.

Ft. Worth: Demand fair; offferings light on 17% and adequate on 20%; Texas offerings restricted because of drouth and aphids; dehydrated, 17% protein, northern origin, 100,000 A $55.50@56.50, delivered Ft. Worth, prompt shipment; dehydrated 20%, 150,000 A, California origin $55.50, delivered most Texas points.

Kansas City: Moderate tendency toward the stronger side with lighter operations in Texas and Oklahoma reported and some reduction of offerings for April shipment; market steady to $1 ton stronger on dehydrated; 17% dehydrated alfalfa meal with 100,000 units vitamin A guaranteed on arrival $45@47, sacked, Kansas City; 15% 125,000 A guaranteed $50, sacked, Kansas City; no A guarantee $35@36, and 100,000 A pellets $40@42, bulk, Kansas City; No. 1 fine ground suncured $35@38; No. 1 ¾-in. $34@35, No. 2 ¾-in. $33, sacked, Kansas City.

Cincinnati: Demand fair; trend steady; supply adequate; 17% dehydrated, 100,000 vitamin A $56@59.55; 17% dehydrated, no A $47; 13% fine suncured $36@46.

New Orleans: Demand slow; trend steady; supply adequate; 17% dehydrated, vitamin A guaranteed $52@55; non-guaranteed $45@48; 15% $42@45.

Denver: Demand fair; trend weak; supply adequate; 17% dehydrated $43.

Los Angeles: Demand slow; trend steady; supply ample; 15% suncured $42.50@43; 17% dehydrated $45.

Memphis: Demand improved; trend lower; supply ample; dehydrated, 17% protein, guaranteed 100,000 units vitamin A $49, sacked.

Portland: Demand slow; trend firm to higher; supply ample; 15% suncured $48.50, delivered Portland; 15% suncured $45, f.o.b. California; dehydrated $45, f.o.b. California.

Philadelphia: Demand dull; supply fair; 17% dehydrated $60.

Chicago: Demand slow; supply adequate; 17% dehydrated, with 100,000 units vitamin A guaranteed $50@51; 17% with no A guaranteed $40@40.50; 13% fine ground suncured $41.50@42.

Boston: Demand and supply steady; dehydrated 17% $62.75; suncured 13% $53, Colorado.

Omaha: Demand fair; supply limited; 17% dehydrated, 100,000 A, burlaps or papers $46, granules or greased $48; 17% dehydrated, non A, papers or burlaps $35.

Minneapolis: The market was about unchanged, with interest somewhat improved. Quotations: 17%, dehydrated, 100,000 units of vitamin A guaranteed $49.50@51.70; oil treated and granules $50.50@50.70, bulk; 18%, 125,000 units of vitamin A guaranteed $54.70; oil treated and granules $53.70, bulk; non-guaranteed $38.50@39.

ALFALFA PELLETS

Omaha: Demand fair; supply limited; 17% dehydrated, 100,000 A, bulk $43, sacked $46.

Denver: Demand fair; trend weak; supply adequate; 17% dehydrated $45.

BARLEY FEED

Portland: Demand good; trend higher; supply limited; rolled $62, ground $60.

Ogden: Supply normal; rolled $45@50, whole barley $38@43.

Philadelphia: Demand dull; supply fair; pulverized $49.

Boston: Demand slow; supply good; $45.

Chicago: Demand fair to good; supply adequate; $36.

Baltimore: Demand fair; supply adequate; $45.

Los Angeles: Demand improved; trend steady; supply ample; standard rolled $3.06; standard ground $3.02.

San Francisco: Demand fair; supply ample; rolled $58, ground $57.

New Orleans: Demand fair; trend steady to higher; supply adequate; pulverized $47@49.

BENTONITE (SODIUM)

Chicago: Demand very good; supply adequate; f.o.b. Wyoming and South Dakota shipping points: granular, 30 mesh $15.50; fine granular, 80-100 mesh $12.75; powder, 200 mesh $12.50; f.o.b. Belle Fourche, S.D., minimum 30-ton carlots: 80 granular $12.50 net; 200 mesh fine $12.25 net.

BLOOD FLOUR

Louisville: Demand slow; trend weak; supply heavy; $70@75 ton, but easing.

BLOOD MEAL

Portland: Demand slow; supply ample; trend unchanged; $100.

Ogden: Supply normal; $95 ton in 100-lb. bags, f.o.b. Ogden.

Louisville: Demand dull; trend weak; supply heavy; $70@75 ton, but easing.

Chicago: Demand slow; supply adequate; $95@115 ton, guaranteed 80% protein.

San Francisco: Demand slow; supply ample; $4.75 a unit of ammonia.

Los Angeles: Demand fair; trend steady; supply ample; $4.25 a unit of ammonia.

Cincinnati: Demand fair; trend lower; supply adequate; $110.

BONE MEAL

Ft. Worth: Demand slow; supply sufficient; $85, sacked, f.o.b. Ft. Worth, local manufacture.

Cincinnati: Demand good; trend strong; supply adequate; $80 ton, sacked, f.o.b. Cincinnati.

San Francisco: Demand good; supply fair; $58.

St. Paul: Market firm at $80.

BONE MEAL (STEAMED)

St. Louis: Demand good; trend firm; supply adequate; $90.50@92 ton, sacked.

Denver: Demand slow; trend steady; supply adequate; $82.50, f.o.b. West Coast.

Portland: Demand slow; supply ample; trend unchanged; $90.

Boston: Demand steady; supply adequate; $86.

Louisville: Demand slow; trend steady; supply light; $80@85 ton.

Chicago: Demand slow; supply adequate; $70@85.

Omaha: Demand slow; supply ample; $80.

San Francisco: Demand good; supply ample; $82.50.

Los Angeles: Demand fair; trend steady; supply ample; domestic $89.50.

Buffalo: Demand good; trend steady; supply ample; $85 ton, sacked.

BREWERS DRIED GRAINS

Philadelphia: Demand dull; supply fair; $51.50.

Los Angeles: Demand fair; trend steady; supply ample; $54, f.o.b. Van Nuys.

Cincinnati: Demand poor; trend steady to easy; supply adequate; $47.

Boston: Demand and supply good; 26% $53@53.75; 22% $50@50.75.

Louisville: Demand fair; trend easy; supply ample; $43 ton.

Chicago: Demand slow; supply adequate; 24% $41@41.50.

Ft. Worth: Demand slow; supply moderate; 26% nominal $48@49, prompt, delivered Ft. Worth.

St. Louis: Demand fair; trend lower; supply ample; $35 ton bulk, $40 ton sacked.

Buffalo: Demand fair; trend steady to lower; supply good; $44.50, bulk, Boston.

BREWERS DRIED YEAST

Portland: Demand slow; supply ample; trend unchanged; 13¢.

Los Angeles: Demand good; trend steady; supply limited; 10½¢.

San Francisco: Demand fair; supply good; 10¢ lb.

Chicago: Demand good; supply limited; 10@11½¢ lb. in carlots; 10¾@12½¢, l.c.l.

Louisville: Demand fair; trend steady; supply ample; 10¢ lb.

Boston: Demand light; supply steady; 10¢ lb.

Omaha: Demand good; supply limited; 11¢ lb.

Milwaukee: Demand good; supply limited; 10½@11½¢ lb. in carlots; 10¾@12½¢ lb., l.c.l.

St. Louis: Demand fair; supply limited; 10¢ lb. in carlots; 10¾¢ lb. in 5-ton lots; 11¢ lb. in ton lots; 11¾@13¢ lb. in less than ton lots.

Pittsburgh: Carlots 10¢ lb.; 5-ton lots 11¢; ton lots 11½¢.

New Orleans: Carlots 10¢ lb.; 5-ton lots 11¢; ton lots 11½¢.

Cincinnati: Carlots 10¢ lb.; 5-ton lots 11¢; ton lots 11½¢.

New York: Carlots 9½¢ lb.; 10-ton lots 10¢ lb.; 5-ton lots 10½¢ lb.; ton lots 11¢ lb., f.o.b. New Jersey.

Buffalo: Demand good; trend firmer; supply limited; $10.65 cwt.

Denver: Demand fair; supply adequate; trend unchanged; $11 cwt.

BUTTERMILK-CONDENSED

Portland: Demand slow; supply ample; trend unchanged; $4.75.

Philadelphia: Demand dull; supply fair; $4.25.

Ogden: Supply normal; $4.90, 100-lb. drum.

San Francisco: Demand fair; supply good; $5.35 cwt.

Los Angeles: Demand fair; trend steady; supply ample; 100-lb. drum $5.50; large barrels $4.75.

Boston: Demand poor; supply ample; 3¾¢ lb.

Louisville: Demand slow; trend steady; supply normal; $4.25 cwt.

Chicago: Demand and supply fair; $3.25 @3.50 cwt. in carlots.

CALCITE CRYSTALS AND FLOUR

(All prices net, including freight and tax)

New York: Crystals $12.45, flour $9.42.

Buffalo: Crystals $14.20, flour $10.20.

Toledo: Crystals $15.77, flour $11.77.

Boston: Crystals $14.62, flour $10.62.

Limecrest, N.J.: Crystals $9.50, flour $5.50.

CALCIUM CARBONATE

Los Angeles: Demand fair; trend steady; supply ample; meal and flour $10.53 ton, carloads; grits $13.03 ton, carloads.

Minneapolis: Plain $10; iodized (⅛ lb. KI per ton) $13.50; iodized manganesed $15.05.

Chicago: Plain $8.55 ton in 100-lb. bags, delivered.

Cincinnati: Demand poor; trend steady; supply adequate; $8@9.

CHARCOAL

Los Angeles: Demand slow; trend steady; supply ample; poultry charcoal, oak $2.40, 40-lb. bags in ton lots.

Chicago: Demand quiet; supply limited; poultry charcoal $102 ton in 50-lb. multiwalls.

Boston: Demand and supply light; $95.

San Francisco: Demand steady; supply ample; $59.50.

COCONUT MEAL

Los Angeles: Demand improved; trend steady; supply limited; cake, ex-dock, April $66.

Portland: Demand slow; supply ample; trend unchanged; $68.

San Francisco: Demand fair; supply ample; solvent $58, expeller $63.

COD LIVER OIL FORTIFIED

Boston: Demand slow; supply good; 400 D, 2,250 A 22¢ lb.; 300 D, 2,250 A 21¢; 300 D, 1,500 A 18½¢.

New York: Trend steady; price per lb. in 55-gal. drums (413 to 420 lb.): 300 ICU, 750 A 14½@15½¢, 1,500 A 16½@19¢, 2,250 A 18½@21¢, 3,000 A 21½@23¢; 600 ICU, 1,500 A 18@19½¢, 2,250 A 20@22¢, 3,000 A 22@23½¢; f.o.b. Massachusetts, New York or Pennsylvania.

CONDENSED FISH SOLUBLES

Los Angeles: Demand good; trend steady; supply limited; 4½¢.

Boston: Demand spotty; supply good; 3½¢ lb.

CORN GERM MEAL

St. Louis: Demand slow; supply adequate; $42 ton bulk, $47 ton in burlap sacks, St. Louis.

CORN GLUTEN FEED AND MEAL

(All quotations for all cities are sacked basis, bulk basis $5 less)

Minneapolis: Feed $49.77, meal $69.77.

Atlanta: Feed $56.92, meal $76.92.

Birmingham: Feed $55.18, meal $75.18.

Boston: Feed $54.15, meal $74.15.

Chicago: Feed $44, meal $64.

Cleveland: Feed $51.04, meal $71.04.

Denver: Feed $53, meal $73.

Ft. Worth: Feed $51.50, meal $71.50.

Indianapolis: Feed $48.50, meal $68.50.

Kansas City: Feed $44, meal $64.

Louisville: Feed $50.11, meal $70.11.

New Orleans: Feed $52.85, meal $72.85.

New York: Feed $53.69, meal $73.69.

Norfolk: Feed $53, meal $73.

Philadelphia: Feed $53.23, meal $73.23.

Pittsburgh: Feed $51.50, meal $71.50.

St. Louis: Feed $44, meal $64.

CORN OIL MEAL

Cincinnati: Demand fair; trend steady; supply adequate; $51.80@52.10.

Louisville: Demand slow; trend steady; supply normal; $52.10 ton.

COTTONSEED MEAL

Ogden: Supply normal; 41% $68@73.

Portland: Demand good; supply ample; trend unchanged; $62, f.o.b. Los Angeles.

Philadelphia: Demand dull; supply fair; $66.

San Francisco: Demand good; supply ample; expeller $67.50, solvent $66.

New Orleans: Demand fair; trend steady to weaker; supply adequate; 41% old process $67@69.50.

Denver: Demand fair; trend steady; supply adequate; 41% solvent $63.

Ft. Worth: Demand fair; supply adequate; carlots, sacked, central and north Texas origin, 41% old process $59@61; solvent, 41% low gossypol $56, delivered Ft. Worth; pellets $2 additional.

Kansas City: Little better inquiry with offerings about adequate; trend slightly stronger; $50@50.50, sacked, Memphis, for old process, $48 solvent.

Wichita: Demand slow; supply ample; 41% $61.

Los Angeles: Demand fair; trend steady; supply ample; $61@62.

Memphis: Demand dull; trend upward; supply adequate; prime 41% protein, old process $50, sacked; new process, 41% solvent $48, sacked.

Buffalo: Demand poor; trend steady; supply fair; $69.25, sacked, Boston.

Omaha: Demand fair; supply adequate; 41% solvent $62.50; range sise $66.

Chicago: Demand slow; supply plentiful; hydraulic $61.50@62; solvent $57@58.

Atlanta: Demand fair; trend steady; supply ample; 41% $58, sacked, immediate.

Louisville: Demand dull; trend easy; supply normal; new process $57.24 ton; old process $59.24.

Boston: Demand slow; supply good; $68.75.

A AND D FEEDING OIL

Buffalo: Demand steady; supply adequate; 300 D, 750 A 18¾¢ lb. 300 D, 1,500 A 20½¢ lb.; 300 D, 2,250 A 23½¢ lb.; 300 D, 3,000 A 26½¢ lb.; 600 D, 4,000 A 21¢ lb.; straight vitamin A feeding oil 10¾@11¾¢ per M. U., drum lots, drums included, basis Buffalo.

Denver: Demand fair; trend steady; supply ample; 2,250 A, 300 D 22¢, 55-gal. drum, drum included.

Minneapolis: 10,000 A 22¢ lb.; 300 D, 2,250 A 20¢ lb.; 300 D, 1,500 A 18¢ lb.; 300 D, 750 A 16¢ lb.

Boston: Demand slow; supply good; 600 D, 1,500 A 17¢ lb.; 300 D, 2,250 A 18¢; 300 D, 1,500 A 16¢; 300 D, 750 A 15¢.

Chicago: Demand fair; supply plentiful; straight A feeding oil, with 10,000 units vitamin A per gram 7½@9¢ a million units of vitamin A, l.c.l., packed in 55-gal. drums, f.o.b. Chicago, drums included.

New York: Trend steady; price per lb. in 55-gal. drums (413 to 420 lb.): 300 ICU, 750 A 13½@15½¢, 1,500 A 15½@17¢, 2,250 A 17½@20¢, 3,000 A 19½@21¢; 600 ICU, 1,500 A 16@18¢, 2,250 A 18@19½¢, 3,000 A 20@21½¢; f.o.b. Massachusetts, New York or Pennsylvania.

D ACTIVATED ANIMAL STEROL, POWDERED

Cincinnati: Demand poor; supply ample; trend steady; 1,500 ICU 11@12¢; 3,000 ICU 18¢, warehouse.

Kansas City: Demand fair; trend steady; supply adequate; 10½@11¢ lb.

New York: Trend steady; price per lb. in 50- and 100-lb. bags or 100-lb drums: 1,500 ICU 8@12¢ bagged, 12@13¢ drums; 3,000 ICU 12@17¢ bagged, 17@18¢ drums; f.o.b. or delivered basis Pennsylvania, Delaware and New York.

DICALCIUM PHOSPHATE

Cincinnati: 18% phosphorus $87@90.

Portland: Demand slow; supply ample; trend unchanged; $100.

Denver: Demand slow; trend steady; supply ample; $109.45.

Minneapolis: 18.5% phosphorus, 24% calcium granular or fine ground $88.54 ton, delivered; $5 ton less in bulk.

Trenton, Mich.: Minimum phosphorus 21%, maximum fluorine .01% guaranteed $94.50, f.o.b. Trenton, in 100-lb. multiwall bags; minimum phosphorus 18½%, maximum fluorine .01% guaranteed $83.25, f.o.b. Trenton in 100-lb. multiwall bags.

Adams, Mass.: Minimum phosphorus 18½%, minimum 25% calcium, maximum .01% fluorine guaranteed $74 ton, f.o.b. Adams, in 100-lb. multiwall bags. Freight equalized with nearest producing point, carload basis.

Columbia, Tenn: Minimum phosphorus 18½%, minimum 25% calcium, maximum .01% fluorine guaranteed $74 ton, f.o.b. Columbia, in 100-lb. multiwall bags. Freight equalized with nearest producing point, carload basis.

Bonnie, Fla.: Demand improving; supply adequate; minimum phosphorus 18½% granular $79.55. Freight equalized with closest dicalcium phosphate producing point, carload basis.

East St. Louis: 18½% phosphorus $83.25, bagged, f.o.b. cars.

Chicago: Demand fair; supplies adequate; stock feed grade, 18.5% phosphorus, 20,000 lb. or more $83.25 per net ton in 100-lb. papers, basis Chicago Heights, Ill., or Nashville, Tenn., less than 20,000 lb. $83.25; 21% phosphorus, 20,000 lb. or more $94.50, basis Chicago Heights and Nashville, less than 20,000 lb. $104.50; freight equalized with St. Louis, Trenton, Mich., and Godwin, Tenn.; bulk, boxcars or hoppers $3 net ton less than bagged material.

DEFLUORINATED PHOSPHATE

Denver: Demand fair; supply adequate; trend unchanged; 19% $88.50 ton, trailer load.

Tupelo, Miss.: $48.50.

Houston: 19% $69.50.

Wales, Tenn.: $62.10.

Coronet, Fla.: Minimum phosphorus 17%, minimum calcium 34%, maximum fluorine .17% $58 net ton, f.o.b. Coronet in 100-lb. multiwall bags, $54 in bulk; minimum phosphorus 14.5%, minimum calcium 34%, maximum fluorine 0.145% $48 net ton, f.o.b. Coronet, in 100-lb. multiwall bags, $48 in bulk.

DISTILLERS DRIED GRAINS

Philadelphia: Demand dull; supply light; $60.

San Francisco: Demand fair; supply ample; $57.50; solubles $80.

Boston: Demand slow; supply improved; light $60@61, dark $62.

Louisville: Demand fair; trend weak; supply ample; bourbon grains, light $52.50, dark $53.50, solubles $71.50 quoted, some quotes lower.

Cincinnati: Demand fair; trend lower; supply adequate; $54@56.

Buffalo: Demand and supply fair; trend steady; $57, bulk, Boston.

DRIED BEET PULP

Ft. Worth: Demand slow; supply scarce; carlots, 50-lb. papers $66@67, delivered Ft. Worth, April shipment.

San Francisco: Demand good; supply fair; $52.35.

Boston: Demand slow; supply ample; $65@69.

Cincinnati: Demand fair; trend higher; supply adequate; $63.

Buffalo: Demand poor; trend steady; supply fair; $58.50, sacked, Boston.

Chicago: Plain pulp $61 in papers; molasses pulp $58.

Atlanta: Demand slow; trend steady; supply ample; $72, sacked, immediate.

Los Angeles: Demand slow; trend steady; supply ample; $51.02, paper bags.

Ogden: Supply normal; $45@50 ton.

DRIED BUTTERMILK

Wichita: Demand slow; supply adequate; $8.25 cwt.

Ft. Worth: Demand very slow; supply extremely limited; local production $12 cwt., f.o.b. Ft. Worth.

Louisville: Demand fair; trend steady; supply ample; 11¢ lb.

Chicago: Demand fair; supply adequate; medium acid 9½@10¢; sweet cream 10@10½¢.

Boston: Demand poor; supply adequate; 11½¢ lb.

Buffalo: Demand good; trend firmer; supply limited; $10.85 cwt.

Ogden: Supply normal; $8.65, 100-lb. bag.

Los Angeles: Demand fair; trend steady; supply ample; 11¢.

San Francisco: Demand fair; supply ample; $11 cwt.

Minneapolis: Market easier; demand slow; supplies adequate; $9@9.50 cwt.

DRIED CITRUS PULP

Los Angeles: Demand fair; trend steady; supply ample; f.o.b. southern California producers' plants: orange $47 sacked, $42 bulk.

Boston: Demand light; supply adequate; $56.44.

Atlanta: Demand fair; supplies ample on pulp, limited on meal; trend steady; pulp $44, meal $41.50, sacked, immediate.

San Francisco: Demand good; supply fair; meal $55.50.

Buffalo: Demand poor; trend steady; supply fair; $35, sacked, f.o.b. Florida points.

DRIED SKIM MILK

Buffalo: Demand good; trend steady; supply ample; $11.50 cwt.

Philadelphia: Demand and supply fair; $12.50.

Portland: Demand good; supply limited; trend unchanged; $13.

Cincinnati: Demand fair; trend steady; supply adequate; 11½¢.

Los Angeles: Demand fair; trend steady; supply ample; $13.75.

New Orleans: Demand light; supply adequate; trend steady; $11.50@12 cwt.

San Francisco: Demand and supply fair; 13¼¢ lb.

Boston: Demand poor; supply plentiful; 13¢ lb.

Louisville: Demand fair; trend steady; supply ample; 11@11½¢ lb.

Minneapolis: Market unchanged at $11@12 cwt.

Chicago: Demand light; supply adequate; $11@11.50 cwt. in carlots.

DRIED WHEY

Los Angeles: Demand fair; trend steady; supply ample; fortified $6.15, unfortified $6.

San Francisco: Demand steady; supply good; $6 cwt.
Denver: Demand fair; trend steady; supply ample; $7.25 cwt.
New Orleans: Demand poor; trend steady; supply adequate; $6@6.50 cwt.
Cincinnati: Demand fair; trend steady; supply adequate; $6.
Ft. Worth: Demand fair; supply adequate; carlots, standard $6 cwt., sacked, delivered Ft. Worth or any Texas point or in ton lots, f.o.b. warehouse, Ft. Worth.
Ogden: Supply normal; $6.90, 100-lb. bag.
Buffalo: Demand poor; trend steady; supply fair; $6 cwt., delivered.
Kansas City: Trend steady; demand fair; straight grade $6 cwt., delivered or $5 f.o.b. plant, plus freight, whichever is lower; $6.25 for partially delactosed.
Portland: Demand slow; trend lower; supply ample; $5.75.
Boston: Demand poor; supply plentiful; 6¢ lb.
Louisville: Demand slow; trend steady; supply normal; $6@6.50 cwt.
Chicago: Demand steady; supply adequate; $5.50 cwt. in carlots.
Minneapolis: Market easier at $5@5.25 cwt.

FISH MEAL

Buffalo: Demand fair; trend steady; supply limited; 60% protein menhaden $148 ton, bulk; $151, sacked.
Ft. Worth: Demand good; supply sufficient; 60% Peruvian $145, f.o.b. Houston, immediate.
Cincinnati: Demand fair; trend steady; supply adequate; $150@155.
New Orleans: Demand fair; trend steady; supply sufficient; 60% $143@148.
Ogden: Supply normal; $2.20 a unit, f.o.b. Coast; 65% $171@173.
Denver: Demand fair; trend steady; supply adequate; 70% herring $149.
San Francisco: Demand slow; supply ample; $2.15 a unit of protein.
Los Angeles: Demand and trend steady; supply ample; $2.25 a unit of protein.
Portland: Demand slow; trend steady; supply ample; $1.95, f.o.b. Vancouver; $2.25, f.o.b. California.
Chicago: Demand good; supply fair to moderate; menhaden fish meal, 60% protein, f.o.b. East Coast $137@140 ton; 60% blended West Coast $127.50; Northwest herring-salmon blend $127.50; herring meal 73% protein $1.75 a unit of protein.
Atlanta: Demand fair; trend weak; supply ample; 60% $143, sacked, immediate.
Louisville: Demand slow; trend steady; supply normal; $150@160 ton.
Boston: Demand slow; supply plentiful; $135@138.
Minneapolis: Market unchanged at $1.75 a unit of protein, West Coast, for 70% herring; $150@152, Minneapolis, for 60%.

HAY

Portland: Demand good; supply ample; trend unchanged; $46.
Philadelphia: Demand and supply fair; $28.
Buffalo: Demand very weak; No. 2 timothy $18 ton; No. 2 alfalfa $25@28; straw, strong $12@15.
Los Angeles: Demand and trend steady; supply ample; U.S. No. 1 $33@34; U.S. No. 2, leafy $31@32; U.S. No. 2, green $31@32; U.S. No. 2 $28@29.50.
New Orleans: Demand light; supply ample; trend steady; timothy and clover $30@32, baled alfalfa $36@38, prairie $25@27.
Cincinnati: Demand slow; trend steady; supply adequate; No. 1 timothy (new) $21; first cutting No. 1 alfalfa (new) $21; second cutting No. 1 $25; fancy No. 1 clover and timothy mixed $27; No. 1 red clover $22; bright wheat or oat straw $18.
Wichita: Demand slow; supply plentiful; prairie $18@22, alfalfa $20@24.
Ft. Worth: Demand fair for alfalfa, practically nil for others; supply sufficient; carlots, baled, No. 1 alfalfa $36@38, No. 2 $34@36; prairie No. 2 $24@26; Johnson grass No. 2 $22@24, delivered TCP.
Ogden: Supply normal; $1.25 bale; $24@30 ton in the barn.
St. Louis: Demand fair; trend steady; supply ample; No. 1 timothy $25@28 ton, No. 1 clover $18@20 ton, No. 1 alfalfa $21@25, No. 1 prairie $25@26 ton, straw $14@15 ton.
Boston: Demand steady; supply plentiful; No. 1 timothy $38@40; No. 2 $35.
Louisville: Demand dull; trend very weak; supply heavy; baled hay, No. 1, clover, mixed timothy and clover or timothy and alfalfa, all at $30; No. 2 $28; lespedeza, No. 1 $20, No. 2 $18; straw strong at $18.

HOMINY FEED

Buffalo: Demand good; trend higher; supply fair; $58, bulk, Boston.
Kansas City: Offerings scarce; demand moderate; trend firm; $46@46.50, sacked, Kansas City, for white or yellow.
Cincinnati: Demand fair; trend higher; supply limited; $56.
New Orleans: Demand fair; supply limited; trend stronger; $52@54.50.
Chicago: Demand good; supply tight; $53@53.50.
Louisville: Demand fair; trend strong; supply ample; $52.70.
Boston: Demand slow; supply adequate; $58.
Memphis: Demand fair; trend higher; supply ample; white $53.20, yellow $56.20.

LINSEED OIL MEAL

Portland: Demand good; supply limited; trend unchanged; $54, f.o.b. Los Angeles.
Ft. Worth: Demand slow; supply adequate; carlots, 36% or better: April $69.92, May-August $70.92, delivered Ft. Worth; pellets $2.50 premium.
Kansas City: Trend again slightly stronger with demand slow in this area and offerings moderate; $46.50@47, bulk, Minneapolis; old process $54.50.
Wichita: Demand fair; supply sufficient; 34% $66.
Cincinnati: Demand fair; trend steady to higher; supply adequate; $63@65.
New Orleans: Demand slow; trend firm; supply limited; 32% or better $66@68.50.
Denver: Demand fair; trend steady; supply adequate; 36% $65.
San Francisco: Demand and supply fair; $71.
Los Angeles: Demand fair; trend steady; supply ample; $63.
Philadelphia: Demand dull; supply fair; $63.
Omaha: Demand fair; supply adequate; 34% expeller $68, pellets $70.50; 36% solvent $61, pellets $62.50.
Chicago: Prices advanced around $1 ton during the week ending March 24. An export demand provided the stimulus. Quotations March 23: solvent linseed oil meal $57.50, expeller $66.
Louisville: Demand slow; trend strong; supply normal; new process $64; old process $71.50.
Boston: Demand slow; supply adequate; $62, bulk.
Minneapolis: Both domestic and export demand improved, and prices were $1@1.50 higher. Quotations: 36% $47@47.50, bulk, Minneapolis; May-June $48.50; 22% flaxseed screenings oil feed easier at $32.50, bulk, Minneapolis.

MALT SPROUTS

New Orleans: Demand fair; trend steady; supply adequate; No. 1 $39@40.
Cincinnati: Demand fair; trend lower; supply adequate; No. 1 $36.
Chicago: Demand and supply fair; No. 1 $31@31.50.
St. Louis: Demand slow; trend steady; supply ample; No. 1 bulk $30 ton, No. 1 sacked $35 ton, No. 2 bulk $27 ton.

MEAT SCRAPS

Los Angeles: Demand fair; trend steady; supply ample; $1.55@1.60 a unit of protein.
San Francisco: Demand fair; supply good; $1.50 a unit of protein.
Denver: Demand slow; trend weaker; supply ample; 50% protein $58.50.
New Orleans: Demand slow; trend steady; supply adequate; 55% $75.50@80, local plants.
Cincinnati: Demand fair; trend steady; supply adequate: $65@67 ton, sacked, f.o.b. Cincinnati.
Wichita: Demand good; supply insufficient; 50% $72.50, f.o.b. plant; 55%, no quotations, no offerings.
Kansas City: Stronger market with demand fair to good; 50% meat and bone scraps $67.50@70, sacked, Kansas City.
St. Louis: Demand fair; trend firm; supply ample; 50% $65@68 ton bulk, $70@73 ton in paper sacks, $69@72 ton in burlap sacks.
Buffalo: Demand fair; trend higher; supply ample; 50% meat scraps $67.50 ton, bulk; $70, sacked.
Portland: Demand slow; supply ample; trend unchanged; $1.40 a unit.
Ogden: Supply normal; $75 ton in 100-lb. bags.
Ft. Worth: Demand slow; supply adequate; meat and bone, 50% $65@67, sacked, f.o.b. or delivered Ft. Worth.
Omaha: Demand slow; supply ample; $70.
Chicago: Demand slow; supply adequate; 50% protein $65@67.50; 55% $77.50.
Louisville: Demand slow; trend weak; supply heavy; $62.50@67.50.
Boston: Demand fair; supply steady; $1.10 a protein unit; converted 50% $87.50.
St. Paul: Market up $1 to $70 for 50% meat and bone scraps and $72 for 55%.

MILLET

St. Louis: Demand fair; trend steady; supply ample; recleaned Early Fortune $3.50 cwt., sacked; recleaned White Proso $3.60 cwt., sacked.

MILLFEEDS

Minneapolis: Prices moved up $2@3 ton this week, as offerings were reduced by lighter mill operations and demand picked up appreciably in all classes of trade. Mixers were good buyers of bulk supplies. Quotations: bran $43.50@44, standard midds. $43.50@45, flour midds. $45.50@46, red dog $46@47.
Kansas City: Prices have broken over the $40 level for the first time in several weeks with demand good and offerings moderate; now after a sustained advance the trend is leveling off; interest has been rather widespread into the East; bran $41@41.50, sacked, Kansas City; shorts $41.50@42, sacked, Kansas City.
Wichita: Demand good; supply inadequate; basis Kansas City, March 27: bran $39@39.50, shorts $39@39.50; bran advanced $1.50 ton and shorts $1 ton, compared with the preceding week.
Ft. Worth: Demand slower on sharp advance; offerings sufficient at higher price; carlots, burlaps, prompt, wheat bran and gray shorts $46@48, delivered Texas common points; $1.50@2.50 higher on both bran and shorts, compared with previous week.
Chicago: Interest continued to expand during the week ending March 28. Eastern supplies were short and buyers were extending their search into the central states. This led to advances of as much as $2 ton. Increased usage, coupled with slower flour mill grind, accented the price squeeze. Quotations: bran $46@46.50, standard midds. $46@46.50, flour midds. $47@48, red dog $49@50.
St. Louis: Demand good; trend strong; supplies scarce; bran $45.25@46, shorts $46@46.75, St. Louis switching limits.
Cincinnati: Demand fair; trend higher; supply adequate; bran $50@52.50, middlings $50@51.
Boston: Demand good; supply spotty; bran and middlings $57.50.
Buffalo: Prices spurted and sales were very active. Later activity tapered as the price rise progressed. The market's strength stemmed from increased demand for bran and middlings, plus reduced flour mill running time. Bran ended up $2.50; middlings and heavy feeds rose $3; bran $50@50.75, standard midds. $48@51, flour midds. $52.50@53, red dog $53@53.50.
Philadelphia: Demand dull; supply ample; bran $53, standard midds. $54, red dog $61.
New Orleans: Demand limited; trend stronger; supply adequate; bran $49@49.75; shorts $50@51.25.
Memphis: Demand fair; trend higher; supply ample; wheat bran $47.50, gray shorts $48.50, standard midds. $48.
Omaha: Demand good; supply limited; bran $41.25, shorts $42; standard midds., bulk $40.
Louisville: Demand fair; trend strong; supply ample; bran $49.95, mixed feed $50.60, shorts $50.20, middlings $52.20.
Portland: Demand slow; supply ample; trend unchanged; $40.
Ogden: Supply average; to Utah and Idaho: red bran and mill run $40, middlings $45; to Denver: red bran and mill run $47, middlings $52; to California: red bran and mill run $47.50, middings $52.50, f.o.b. San Francisco and Los Angeles.
Denver: Demand and trend stronger; supply adequate; bran $43.50, shorts $43.75, mill run $43.75.
San Francisco: Demand fair; supply ample; $49; red bran $54.
Los Angeles: Demand better; trend steady; supply ample; mill run, Utah-Idaho billing, sacked $50@50.50; red bran, delivered CCP, sacked $55@56.

MINERAL FEED

Portland: Demand good; supply ample; trend unchanged; $62.
Wichita: Demand good; supply insufficient; all-purpose with iodine, 50-lb. blocks $92.50; 100-lb. bags $87.50, f.o.b. plant.
Ogden: Supply normal; $105 ton, 50-lb. blocks; $95 ton, granular, 50-lb. bags.
San Francisco: Demand steady; supply good; all-purpose with iodine $70.
Ft. Worth: Demand fair; supply ample; all-purpose granules $82, block $92; mineral phosphorus 6%, granules $95, block $105; cattle-sheep mineral, 7% phosphorus, granules $92, block $101; hog mineral phosphorus 3½%, granules $82; phosphorus 2% $69 (all in 50-lb. paper bags).
Sioux City: 50-lb. mineral blocks, 8.2% phosphorus $92; 7.5% phenothiazine sheep mineral blocks $4 each.

MOLASSES

Portland: Demand slow; supply ample; $26.
Memphis: Demand fair; trend steady; supply plentiful; blackstrap 13¢ gal., tank car, f.o.b. New Orleans.
Los Angeles: Demand moderate; trend steady; supply ample; $25, f.o.b. tank cars; $25.25, f.o.b. tank trucks, both Los Angeles harbor.
San Francisco: Demand and supply good; $25 ton, f.o.b. cars Richmond, Cal.
Denver: Demand fair; trend unchanged; supply ample; 13½¢ gal., New Orleans.
New Orleans: Demand moderate; trend steady; supply adequate; 14¢ gal. in tank cars, f.o.b. New Orleans.
Cincinnati: Demand fair; trend steady; supply adequate; 13¢ gal., New Orleans.
Kansas City: Demand fair; offerings adequate; trend steady with nearby at 13@13½¢ gal., New Orleans; April 13¼@13⅜¢.
Ft. Worth: Demand good; supply moderate; blackstrap 15¢ gal., f.o.b. Houston, carlots, delivered Ft. Worth, cars and/or trucks $32.65, seller's market price on date of shipment; maximum 16¢, April-May-June shipment.
Buffalo: Demand good; trend steady; supply fair; 16½¢ gal., f.o.b. Albany.
Louisville: Demand fair; trend steady;

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suppy normal; 13¼¢ gal. in tank car lots, f.o.b. New Orleans.

Boston: Demand steady; supply ample; 16½¢ gal. in tank cars.

Minneapolis: Market steady at 13½¢ gal., f.o.b. New Orleans, and $26 ton, West Coast.

Atlanta: Citrus molasses—demand good; supply limited; price strong; $20 ton, bulk, f.o.b. Florida producing points, immediate.

NIACIN

New York: Trend steady; $5 kilo, 50-kilo lots; $5.10 kilo, 10-kilo lots; $5.20 kilo, 5- and 2½-kilo lots; $5.30 kilo, 1-kilo lots; freight prepaid or paid to destination.

OAT PRODUCTS

Portland: Demand good; trend higher; supply limited; rolled $67, ground $65, cleaned $68.

Philadelphia: Demand dull; supplies fair to light; pulverized white oats $50; domestic oat feed $23, Canadian $31.

St. Louis: Demand fair; trend higher; supply ample; reground oat feed $15 in 100-lb. burlap sacks; pulverized white oats $45 ton, choice $46.

"MY DOG BUTCH . . ."

Mr. Fred W. Peck, Logansport, Ind. (pictured above with his dog Fred's Logansport Ranger "Butch") says, "When I feed Butch, he is loose in my yard. He jumps up and down and runs to his park. I look the other way and say, 'Where is Butch?' and he jumps and barks to let me know he is in the park. He is the best rabbit dog I ever owned. He is very smart and knows what you say. My Butch was born in 1952. I have fed him Vitality Dog Food since when he was a little puppy. He likes it a very lot." (Letter on file)

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Memphis: Demand fair; supply tight; 3½% protein, reground oat feed $18.50.

Ft. Worth: Demand fair; supply adequate; oat millfeed $41.80, reground oat millfeed $24.55, delivered.

Los Angeles: Demand fair; trend steady; supply ample; white pulverized $64.

Cincinnati: Demand fair; trend steady; supply adequate; reground oats $19; pulverized white oats $47.50; rolled oats $55.

Chicago: Demand stagnant; supply adequate; reground oat feed $13; fine ground feeding oatmeal $72@74; feeding rolled oats $50@52.

Louisville: Demand fair; trend firm to stronger; supply normal; reground $20.20; rolled oats $55.70; feeding oatmeal $78.70; pulverized white oats $48.20; crimped white oats $66.20.

Boston: Demand steady; supply adequate; white pulverized $50; reground oat feed $19.50.

New Orleans: Demand good; trend firm; supply ample; steam crimped oats $66@68.50; pulverized white oats $49@51; mixed feed oats $39@41.

Minneapolis: Prices of most commodities are quoted higher this week, and demand has improved somewhat, with millers looking toward a seasonal peak in late April or May. Quotations: feeding rolled oats $82@83, standard pulverized $41@44, feeding oatmeal $66@68, crimped oats $67, reground oat feed $14@16.

OYSTER SHELL

New Orleans: Demand good; supply adequate; trend steady; $16.25@18.25, local origin.

San Francisco: Demand fair; supply ample; local $15, eastern $26.

Cincinnati: Demand fair; supply adequate; $21.51.

Los Angeles: Demand and trend steady; supply ample; local $18.25, eastern $26.

Portland: Demand improved; supply ample; trend unchanged; western $30, eastern $36; granite and crystal grits, both $26.50.

Boston: Demand and supply steady; in paper $32.34.

Louisville: Demand fair; trend steady; supply normal; in 80-lb. bags $20.64 ton, with 50¢ premium on packaging in 50 lb., and 75¢ premium where packaged in 25-lb. bags.

PEANUT OIL MEAL

Atlanta: Demand slow; trend steady; supply limited; 45% $57.50, sacked, immediate.

PEAT MOSS

Portland: Demand good; supply ample; trend unchanged; $3.25.

Los Angeles: Demand and trend steady; supply ample, Canadian $3.45, 6.1 cu. ft. bales, 300-bale lots, delivered California main line points.

Philadelphia: Demand fair; supply light; $3, f.o.b. pier.

San Francisco: Demand fair; supply ample; $3.35 bale.

New Orleans: Demand fair; trend steady; supply adequate; standard bales German moss $3.10@3.45.

Boston: Demand steady; supply adequate; $3@3.10.

Chicago: Demand good; supply limited; $3.65@3.75 standard 7½ cu. ft. bale.

POTASSIUM IODIDE, U.S.P.

St. Louis: Demand fair; trend firm; supply ample; 100% pure potassium iodide, U.S.P., 250-lb. average in drums $1.90, 100-lb. lots in fiber drums $1.92; potassium iodide calcium stearate mixture, 225 lb. in leverpak drums $1.81, 100-lb. lots in fiber drums $1.85.

RIBOFLAVIN

New York: Trend firm; feed grade (in feed supplements): 4½ g gram in 3.63 to 18 gm./lb. mixtures, freight prepaid or paid to destination.

RICE BY-PRODUCTS

Ft. Worth: Demand moderate; supply very scarce; carlots, rice bran $34@35, prompt shipment, f.o.b. south Texas rice mills; hulls $3@4, f.o.b. mills.

New Orleans: Demand moderate; trend steady; supply ample; bran $44@48; no quotations on hulls.

Los Angeles: Demand fair; trend steady; supply ample; bran $55.61.

Memphis: Demand fair; trend steady; supply ample; bran $35, sacked, f.o.b. Arkansas points.

Atlanta: Demand slow; trend steady; supply limited; bran $45.50, sacked, immediate.

San Francisco: Demand good; supply fair; bran $52, polish $59.

SCREENINGS

Buffalo: Demand fair; trend steady; supply good; ground, sacked $27, New York; unground, sacked $19, New York.

Cincinnati: Demand fair; trend steady; supply adequate; Canadian $23@24; barley $13@19, both bulk, delivered.

New Orleans: Demand slow; trend easier; supply limited; 3/64 in. grind $34@36.50.

Denver: Demand slow; trend steady; supply adequate; ground grain $35.

Chicago: Demand moderate; supply plentiful; ground grain screenings $25.50; Canadian, bulk $17@17.50.

SOFT PHOSPHATE WITH COLLOIDAL CLAY

Chicago: $22@22.75.
Kansas City: $22.15@22.80.
St. Louis: $21.40@22.
Des Moines: $22.50.
Philadelphia: $21.55@22.15.
Minneapolis: $23.15@23.85.
Buffalo: $22.50@23.10.
Atlanta: $18@18.70.
Memphis: $19.40@19.95.

SOYBEAN OIL MEAL

Portland: Demand improved; trend unchanged; supply ample; April $43.

Ft. Worth: Demand improved; supply sufficient; carlots, 44% $69.50@72.50, depending on origin; truck lots $63@64.50, delivered Ft. Worth.

Philadelphia: Demand dull; supply ample; $47.50, bulk, Decatur.

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Ogden: Demand firmer; supply average; $85@90.

Kansas City: Trend sharply stronger with demand improved and offerings fair; market has followed grain advance and better protein inquiry; for Kansas City and West $47@47.50, bulk, Decatur; unrestricted $49.50@50, bulk, Decatur.

Wichita: Demand slow; supply sufficient; 41% $63, f.o.b. Wichita.

Cincinnati: Demand fair; trend steady to stronger; supply adequate; $47@48.50, bulk, Decatur.

New Orleans: Demand dull; trend higher; supply sufficient; 41% old process $66@68.50.

Denver: Demand fair; trend slightly stronger; supply adequate; 44% solvent $68.

San Francisco: Demand fair; supply ample; $74.22.

Memphis: Demand good; trend steady; supply ample; prime 44% solvent $56, sacked, f.o.b. Memphis.

Los Angeles: Demand better, supply ample; trend stronger; $76.75@77.75, delivered CCP.

Decatur: Demand fair; supply adequate; 44% bulk, unrestricted $49.50.

Atlanta: Demand fair; trend stronger; supply ample; 44% $68.30, sacked, immediate.

Louisville: Demand fair; trend strong; supply good; $61.60 quoted.

Boston: Demand slow; supply plentiful; $48.50, bulk, Decatur.

Chicago: Interest continued to mount during the week ending March 28, and prices pressed upward around $3 ton. Nearby supplies were tight and buyers were reaching for delivery dates beyond two weeks. Quotations: 44% protein soybean oil meal $59.50@60.

Omaha: Demand fair; supply adequate; 44% solvent $62.50; 41% expeller $64.

Minneapolis: Improved buying interest has tightened the nearby market, and prices are firm to stronger; quotations: $43@43.50, bulk, Decatur.

TANKAGE

Los Angeles: Demand fair; trend steady; supply ample; $1.45 a unit of protein.

St. Louis: Demand fair; trend firm; supply ample; 60% $69@72 ton bulk, $74@77 ton in paper sacks, $73@76 ton in burlap sacks.

Ft. Worth: Demand fair; supply adequate; 60% digester $76@78, f.o.b. Ft. Worth.

Kansas City: Demand fair to good; trend a little stronger; 60% digester $65@70, sacked, Kansas City.

POULT

(Continued from page 1)

fertility test were not then producing fertile eggs. Some 20% of these eggs showed development long after ordinary fertility could possibly have existed. Parthenogenesis was suspected, and tests were made to prove the point.

Among the findings has been one that all parthenogenetic embryos developing far enough for identification have been males.

The poult of parthenogenetic origin which is still alive was smaller than normal at hatching and has shown a much slower rate of gain than normal, weighing about 45 grams at 12 days of age.

Dr. Olsen believes incidence of parthenogenesis may be greatest in domesticated birds not long removed from the wild.

PRICE OUTLOOK

(Continued from page 1)

arithmetic: Supply, 381 million bushels; crush, 280 million; exports, 65 million; feed, seed and waste, 30 million—leaving a carryout of not more than 6 million bushels that could not be collected under most circumstances.

This information is potent for the feed industry, for the poultry industry and the swine industry. It appears to mean that foreign demand—which, incidentally, Feedstuffs reports have been noting for more than a year as regards oil exports—dominates the current soybean-cottonseed market. The oils are leading these markets.

Higher Corn Prices

Meanwhile, USDA policy is now geared to boosting corn prices at country points no matter where it makes sales. Officials are now committed to offsetting purchases of corn of storable grade to the extent that may be necessary to offset price declines in country sales of off-condition corn.

An indication of oilseed meal prices may be found in the analysis of the USDA fats and oils situation report. This report says that oil prices will make the current oilseed market. The export market is obviously, according to the USDA situation report, little less than bullish. The Census Bureau report this week showing another big crush of beans backs up other bullish estimates.

The only dampening factor is the disposition of USDA to defer edible oil procurements under provisions of Public Law 480 (the law providing for surplus disposal through exports) until after Oct. 1, 1956. It is understood here in official circles that this attitude of USDA has been accepted in foreign buying circles.

The tone of the local USDA orchestra is to play pianissimo on procurement of oils and let meal prices take the leadership of bean prices henceforth.

Keynote of Policy

For the feed industry, here seems to be the keynote of USDA policy as far as administrative decisions may now go prior to the fall elections.

USDA wants to boost corn prices to not less than the gross loan level. Officials were driving in that direction when last week they announced that they would buy offsetting quantities of corn to stop any price depressing effects of sales of off-grade corn at country points.

What was not announced in that official statement was the additional policy that such offsetting purchases would be made at terminal markets.

The conclusion obtained here is that in a political climate which now exists in the face of the farm legislation, USDA is now working toward higher prices for corn, soybean meal and other feed ingredients, to deter further hog production this fall, to hold up the probable upsurge in swine prices in mid-summer, which in some quarters are seen as going to $20-22 cwt.

Some persons believe that fall hog production will be down better than 7%.

Economic ideas must be oriented to the political campaign this fall, again adjusted to local congressional elections. The presidential outcome seems certain. The big parties are now wrapped in a contest as to which will control Congress.

Soybeans may be an important factor in that fight. Soybean prices look higher on the basis of solid information reaching here after discounting all the overseas news of large buying on Manchurian beans by Japan.

The USDA estimate of a 280-million-bushel crush, plus an export level of 65 million, makes that crop look interesting to the long speculator, particularly in mid-summer—except possibly to those who doubt that the total supply is 381 million bushels, the official USDA figure of production plus a 10-million-bushel carryin.

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UP OR DOWN?

By Leonard W. Schruben
Agricultural Economist, Kansas State College

CHANGES IN SEASONAL WHEAT PRICE PATTERNS

Often it is instructive to review changes that have taken place in our marketing and pricing system. Sometimes price movements change from historic patterns, and this leaves behind those who act from force of habit.

This article is the first of a series pointing out changes in seasonal price patterns for the major grain crops. Wheat has been chosen to head the list because of its importance as a crop in trouble.

The general pattern is to compare seasonal price movements before and after the initiation of price supports. No claim is made that price support operations did or did not cause these changes because the purpose here is to record what happened to prices. It is history in a capsule; your conclusions are yours.

Exhibit 1 shows the price pattern for each year for the years 1910 through 1937. Each dot indicates one year. The Kansas farm price of wheat was used, and each month is compared with August.

Here is how to read Exhibit 1. For example, in the September column, one dot is located at the +.20 level. This means that in one of the years, the price advanced 20¢ from August to September. Another dot is located at the —.30 level; prices declined 30¢ one year from August to September. Three dots are located on the center line signifying no change from August to the following September. Each dot across the page was located in the same fashion. The shaded area includes one half of the years; the middle half.

You will note the rather erratic pattern displayed during the earlier period. Some years prices advanced from August and declined during others. The shaded area included the "no change" line during every month.

Now look at Exhibit 2. It was derived in the same manner as Exhibit 1 except the years included 1938 through 1953. In other words, a later period was used. Notice the regularity of the price pattern each year. Prices for November, December and January were always higher than during the previous August.

By comparing Exhibits 1 and 2, you can obtain a picture of changes that have occurred in wheat price patterns. Remember, the price series used were those received by Kansas farmers at mid-month. Other series may vary from this pattern.

STILBESTROL

(Continued from page 1)

hormone-like substance in feeds and had made a number of suggestions for consideration by members of the association.

The suggestions follow:

1. That diethylstilbestrol should be made available to Canadian beef cattle feeders.

2. That the sale of stilbestrol as such be limited to feed registrants that have beef cattle feeds registered to contain stilbestrol.

3. That each feed registrant have reasonable freedom to declare whatever level of stilbestrol is desired in a given feed or supplement provided the feeding instructions for the feed or supplement are clearly set out so that each fattening beef animal will obtain only 10 milligrams of stilbestrol daily.

4. That the level of stilbestrol supplied in a premix to a feed registrant be standardized (one gram of stilbestrol per pound of premix is suggested).

5. That a dye be incorporated in the stilbestrol premix supplied to the feed registrant for the purpose of identification and assay and that the type and level of dye be standardized and specified by the Plant Products Division, Production Service of the Department of Agriculture.

6. That the Plant Products Division require submission prior to registration, of representative samples of any feed incorporating stilbestrol to determine the eligibility of the feed in question for registration.

7. That the label for any product registered to contain stilbestrol declare the actual amount of stilbestrol present.

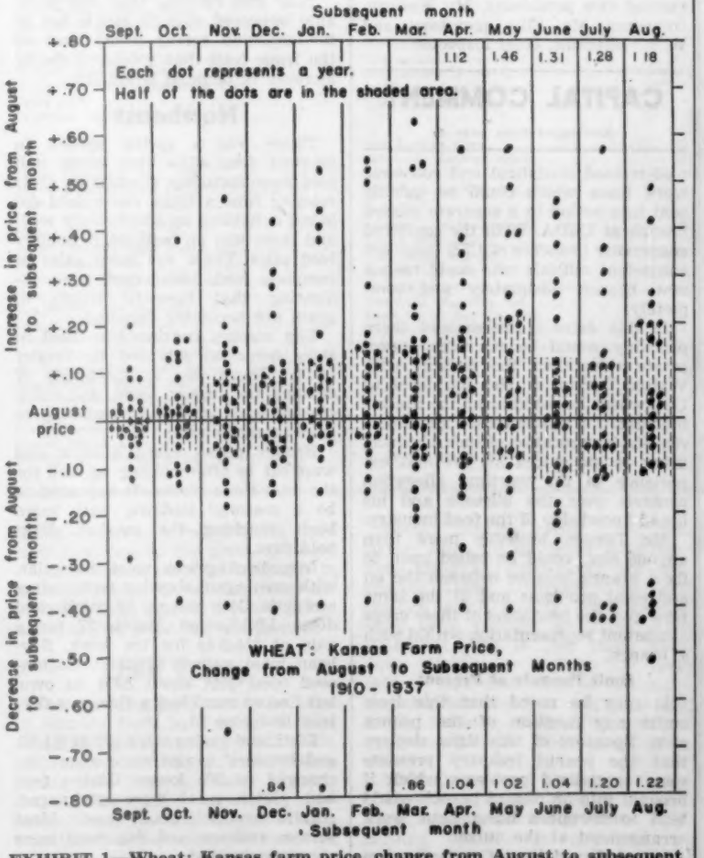

EXHIBIT 1—Wheat: Kansas farm price, change from August to subsequent months, 1910-1937.

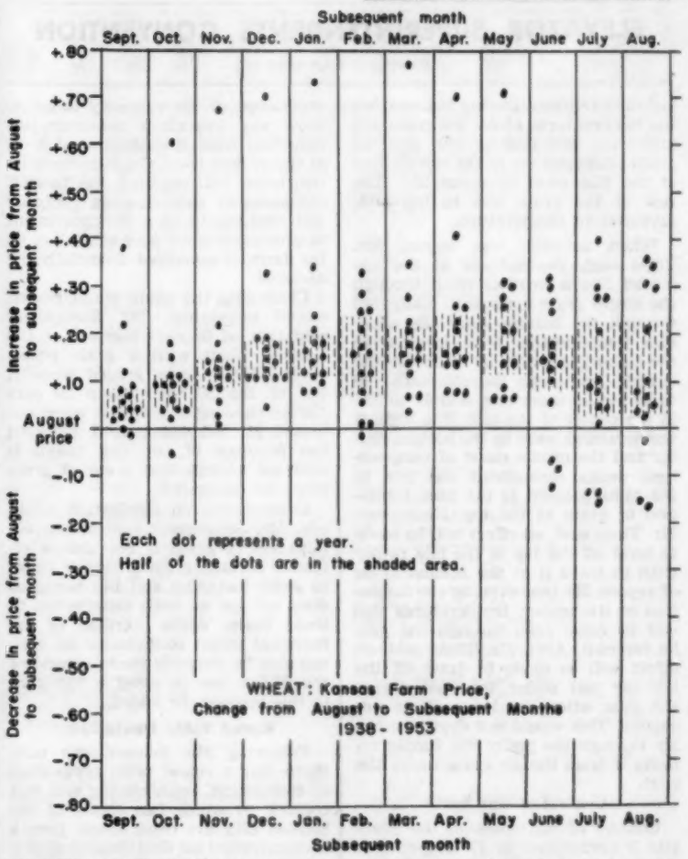

EXHIBIT 2—Wheat: Kansas farm price, change from August to subsequent months, 1938-1953.

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ELEVATOR SUPERINTENDENTS CONVENTION

(Continued from page 6)

begun in October. During hot weather the temperatures above the grain pile under the roof rose to 140° and the grain temperatures in the top six feet of the pile went to about 95°. The rest of the grain was in the mid-seventies in temperature.

When aeration was begun, Mr. Theis said, the hot air at the top moved like a weather front through the entire grain mass until dissipated through the bottom ducts. By aeration temperatures were lowered to the following levels: 39 to 48° in the outside ring near the sidewalls; 40 to 50° in an inner ring and 44 to 58° in the center of the pile. The highest temperatures were in the bottom center and the profile chart of temperature peaks throughout the pile in the same pattern as the cone formation of grain at the top. Next year, Mr. Theis said, an effort will be made to level off the top of the pile rather than to leave it at the normal angle of repose. By thus evening the insulation of the center, temperatures also will be more even through the pile, he forecast. Also, Mr. Theis said, an effort will be made to draw off the hot air just under the roof during the year after the lower ducts are capped. This would not draw the hot air through the grain, but simply remove it from the air space under the roof.

Control of Hot Spots

Control of hot spots in the grain pile is maintained by 17 temperature cables extending from the tank ceiling to the floor through the grain. One cable is in the center, 6 in the inner ring and 10 in the outer right. When a hot spot is found, it is possible to control it either by covering the top of the pile with insulating paper, leaving a hole just over the hot spot through which a heavy volume of air can be moved, or by sinking a large hollow pipe into the grain pile at the hot spot and augering out the heated grain.

The method of unloading these tanks has yet to be determined, Mr. Theis said. Present plans are to use a clam-type grain shovel to pull the grain to a discharge pit at one side of the tank. A belt connects this pit with the basement of the regular elevator building next door. Care will have to be used to take the pile down evenly so that there will be no buckling of the tank from uneven pressure on sidewalls. This is also an important factor in loading the tank, it was pointed out. The grain shovels cannot be used below a point a few feet above the ventilating ducts on the floor, so the bottom grain layer will have to be removed by suction loader or some similar device. This might be overcome in original construction by sinking the aeration ducts below the floor level, Mr. Theis speculated.

Reporting on grain storage in an ex-oil tank field at Mexia, Texas, Mr. Goodnight said he recently loaded out in good condition No. 2 wheat which had been in this type of storage for five years. In loading out at Mexia, Mr. Goodnight takes the grain piles down evenly around the sidewalls by portable loaders which take the grain out through a number of portholes at the base. This avoids any possibility of buckling the tank walls. He said one difficulty with tank storage is the accumulation of dockage materials at the edges of the tank, which represents the uneven flow of materials of different weights while loading.

Clean Grain Program

In an earlier session, those attending the convention heard W. H. Schoenherr, entomologist for the Lauhoff Grain Co., Danville, Ill., say that grain sanitation educational work at the farm level so far has not produced effective results.

Speaking from the processors' standpoint, Mr. Schoenherr said the experience of his company failed to show any important contamination reduction from the educational work at the grower level. Grain contamination levels still are high, the Lauhoff entomologist said. Results probably will continue to be a disappointment to processors until poor sanitation on the farm is penalized financially, he declared.

Criticizing the grain standards on weevil infestation, Mr. Schoenherr said that of 50 cars sampled at the Lauhoff plant with a grain probe, seven (14%) were graded weevily, but of the 50 there were 39 cars (79%) showing live weevil when unloaded. Mr. Schoenherr said that even the presence of one live weevil is evidence enough that a car of grain must be fumigated.

Commenting on fumigation methods, Mr. Schoenherr said boxcar fumigation of grain is not always effective because grain in transit packs in some instances and the fumigant does not get an even distribution in those cases. While overdose of the fumigant might compensate for this, one may be violating the tolerances of the Miller law in using a fumigant in this manner, he added.

Round Table Discussions

Following Mr. Schoenherr's talk, there was a round table symposium on fumigation, housekeeping and dust control, at which Leo Casey of the Kansas City fire department, gave a demonstration on dust explosion prevention, followed by talks on safety and fire protection by Roy Gretzer of Cargill, Inc., and Frank Schultz of Van Dusen Harrington Co., Minneapolis.

Other round-table discussions were held on grain grading and power and transmission. Robert H. Jordan of Galveston (Texas) Wharves Terminal Elevator, led the first discussion and Clifford A. McIver of Archer-Daniels-Midland Co., Minneapolis, was in charge of the second.

At a luncheon in the Grand Ballroom of the Muehlebach March 19, Kenneth S. Hart, president of the Kansas City Board of Trade, welcomed the group to Kansas City. The speaker paid tribute to the grain superintendents' responsibilities in the industry and pointed out the complex qualifications of the profession.

Robert L. Simmons, Producers Grain Corp., Amarillo, Texas, was elected new president of GEAPS at a business meeting March 18. He succeeds Orrin E. Kinman, Cargill, Inc., Kansas City. First vice president for the new year is Robert Ranney, Ralston Purina Co., Minneapolis; second vice president, Kenneth C. Mecklem, Kerr Gifford division of Cargill, Inc., Portland, Ore., and sergeant-at-arms, Harold Beaver, Stratton-Theis Grain Co., St. Joseph, Mo. Dean M. Clark continues at secretary-treasurer.

About 350 superintendents and allied interests attended the five-day convention.

Turkey Convention To Be in Cincinnati

MOUNT MORRIS, ILL.—The National Turkey Federation has announced that it will hold its 1957 convention Jan. 8-10 in Cincinnati.

The convention had been scheduled for the same dates in Cleveland, Ohio, but difficulties in connection with arrangements for use of the Cleveland Auditorium caused the recently announced shift to Cincinnati, according to M. C. Small, executive secretary of the NTF.

ELEVATOR BEING BUILT

CASTLE ROCK, MINN.—The new elevator being constructed by the Farmers Mill & Elevator Co. here to replace the one burned Oct. 26 is nearing completion.

Western Grain & Feed Sets District Meetings

DES MOINES, IOWA—Five district meetings have been announced by Mark G. Thornburg, executive secretary of the Western Grain & Feed Assn. All will be held the first week of April.

To be discussed at the meetings will be a variety of feed and grain problems. Special feed panels at each meeting will discuss such topics as the meat-type hog, cost production, farm credit, livestock outlook and others. Among the grain topics will be the Uniform Grain Storage Agreement contract, the new method of selling CCC corn from bin sites and the storage situation. Other special talks will include information on bulk feed operations and merchandising and selling.

Here is the schedule for the dinner meetings:

April 2—Southeast district at the YMCA, Washington, 6:45 p.m.

April 3—Central district at Lloyd's Restaurant, Marshalltown, 7 p.m.

April 4—Northeast district at VFW Hall, Hampton, 6:30 p.m.

April 5—Northwest district at Cobblestone Inn, Storm Lake, 6:30 p.m.

April 6—Southwest district at Whitney Hotel, Atlantic, 7 p.m.

Denver Grain Exchange Assn. Elects Officers

DENVER—Three new directors of the Denver Grain Exchange Assn. were elected at the annual meeting March 19. They are J. L. Cook, Colorado Milling & Elevator Co.; H. L. Wierman, Summit Grain Co., both of Denver, and F. W. Dawson, Robinson Grain Co., Colorado Springs. They succeed F. R. Houlton, Alfred Owens and the late Fred W. Lake.

Directors reelected are J. W. Conley, Delbert G. Ellis, Newton A. Gray, George M. Hopfenbeck, J. E. Kellogg, William Kilgore, J. Kenneth Malo, Robert M. Pease and Wayne Van Vleet, all of Denver, and Ralph W. Farr of Greeley.

J. Kenneth Malo, Fort Morgan Mills, was elected president of the association by the directors, succeeding Ralph Farr, Farr Co.

Mr. Gray and Mr. Kilgore were elected vice presidents, Mr. Kellogg, treasurer. Mr. Ellis, secretary, and W. L. Hutchins, chief inspector.

CAPITAL COMMENT

(Continued from page 6)

well-trained statistical and economic work force which could be quickly sent into action in a separate oilseed branch at USDA. With the scattered commodity branches of CSS there are competent officials who could man a new branch adequately and completely.

If this drive is to succeed there probably would be no more appropriate time than the present with Walter Berger at the top level of CSS where he could draw the master blueprint for this operation and supervise the inauguration of such a branch, using as his guides his previous experience in the wartime allocation controls over the oilseeds and his broad knowledge of the feed industry.

Mr. Berger, probably more than anyone else, could be relied upon to fix a branch balance between the oil and meal problems and at the same time give the producers of these crops competent representation within such a branch.

Omit Peanuts at Present

It may be noted that this item omits any mention of the peanut crop. Sponsors of this drive declare that the peanut industry presents some specialized problems which if brought into an oilseed branch would tend to disrupt a harmonious work arrangement at the outset.

It is believed that if peanuts were temporarily omitted from an oilseed branch at the start that after its operations went through a "shakedown" run then it would be a better time to consider integration of the peanut crop into that machinery. However, this may be a relatively minor point and it would be seen indeed unfortunate if such an obscure item could delay or halt this step to improved management within USDA at this time.

MARKETS

(Continued from page 1)

ments remain high, and it is felt that birds placed earlier have now reached the age where substantial increases in feed consumed are being experienced. This, of course, stimulates demand for this type of feed.

There seems to be a feeling in the southeast that hog prices are going to be better in the near future, and from all indications feeding operations of this type have picked up quite a bit. The weather, having been open and mild for the most part, has improved pasture conditions, which has not helped demand for dairy and cattle feed.

Locally there is better interest in ground snap corn, both on the buying and selling sides, with prices unchanged for the most part. In some cases bookings have been made for as much as a month and a half in the future, which has been unusual of late.

Recent strength in ingredients such as soybean meal and cottonseed meal has also served to stimulate interest from purchasing agents for feed manufacturers, and this has given the market a better tone. Much of the distress-priced material which was hanging over the market recently has now been cleared away, and sellers are in much better shape.

Other locally produced materials such as peanut vine hay, cottonseed hulls and other roughage materials are still on the slow side, with a slight firming tendency being noted in the hull market. Many cottonseed mills are winding up their crush for this season, and this has made for reluctance on the part of sellers to entertain bids on the down side.

Feed mill running time has probably improved slightly but is not at the expected spring peak. Most of the trade feels that a delayed spring increase in demand is starting.

Northeast

There was a spring upturn in formula feed sales this week, and feed manufacturers stepped up their running time a little. Dairy feed demand is holding up surprisingly well, and there was an increase in poultry feed sales. There are more sales of complete feeds being made now, indicating that farmers' stocks of grain are becoming depleted.

Egg mashes continued to lead in sales turnover, followed by broiler feeds. There was a smattering of demand for turkey feeds, and chick starter feed demand is beginning to gain in momentum.

Broiler prices eased a little and were off 1¢ after holding up well for the past three weeks. It appeared to be a seasonal letdown, with more birds reaching the market. Eggs held firm.

Ingredient prices were irregular, with corn again showing outstanding strength. Corn was up 5¢ but backed down 1@1½¢ on March 27 for a gain of 3½@4¢ for the week. Soybean meal gained $2@2.50. Cottonseed meal just about held its own, but linseed meal had a firmer undertone and rose $1.

Distillers' grains were off $1@1.50, and brewers' grains were about unchanged to 50¢ lower. Gluten feed and gluten meal were unchanged. Alfalfa meal held about steady. Meat scraps, tankage and fish meal were about unchanged.

Mill running time of formula feed

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manufacturers increased to 5½ days from five days in the previous week.

There was a burst of strength in millfeed prices. Sales were very active, but they tapered off late in the week as the price rise progressed.

Ohio Valley

The encouraging increase in sales of formula feeds in the Ohio Valley, noted last week, continued this week, with more activity in most area plants than there had been in many months. Two shifts were quite generally reported, and in some mills overtime was necessary to maintain a reasonably close relationship between orders and production.

Better feeding ratios and the swing into spring farm activities were cited as reasons for the improving sales. Demands for egg mashes, chick starters and turkey feeds were stronger than for some time, but sales of hog feeds were down slightly, as farmers are now able to take advantage of the fast-greening pastures for both hogs and cattle. Formula feed prices in this area strengthened 50@75¢ ton this week.

With the ground now better saturated with water than in several years, and with the weather now settling into the spring pattern of longer and warmer days, the over-all farm picture appears favorable for a profitable year for valley farmers, even though, in this political year, some are declaring otherwise. With industrial employment at its highest peak throughout this area, demand for all types of meats can be expected to continue at a high and profitable level for an extended period.

Mountain States

There is an air of optimism among feed men for the first time in a month as the feed business shows signs of awakening. The hope seems to be that sales will bloom with the first flowers.

Although there has been no large increase in tonnage, indications are the downward trend has halted.

It is still early for the impact of poultry and turkey feeding to be felt to any extent. Colorado chick output in February was 30% larger than the same month last year. Broiler chicks are down a little the first two months, but non-broilers are up.

More replacements have been reaching cattle feeding lots as feeders have been able to buy light cattle and calves at a slightly more advantageous price. With the prospect of grass and hay before too long the feeder cattle population may swing upward. However, they will be fed a lot of grass and hay before feeds will be used too much.

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